A SYSTEM OF HARMONY

BY

CYRILL KISTLER.

TRANSLATED BY AMANDA SCHREIBER
FROM THE 2ND GERMAN EDITION.

„Die schaffende Kraft des Künstlers muss sich am Kleinsten zeigen und kann und muss auch längere Zeit nur erst am Kleinsten heraus gefördert werden." *N. N.*

„Die Meisterregeln lernt bei Zeiten,
Dass sie getreulich euch geleiten,
Und helfen wohl bewahren,
Was in der Jugend Jahren
In holdem Triebe
Lenz und Liebe
Euch unbewusst in's Herz gelegt,
Dass ihr das unverloren hegt"
R. Wagner.

LONDON
HAAS & Co, 2 LANGHAM PLACE, W.
1899.

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PREFACE.

In the year 1880 I published the first edition of my "System of Harmony", and now I prepare to issue a second and completely re-written edition.

Two decades have passed by since the date of the original publication, and during that time public opinion has moved on in musical matters. Much important advice and many valuable suggestions have come to hand for the new edition. The editor himself has accumulated a great amount of experience by constant teaching. All this shall now, in so far as instruction in the theory of harmony is concerned, appear in systematical order.

"One learns only by examples" said Richard Wagner, and therefore a great number of examples are given in the new edition.

Anyone who has taught music in schools, academies, &c., knows how short a time is allowed in which to achieve something profitable, and how few hours there are which can be utilised for theoretical teaching.

Under these circumstances both teacher and pupil will find in this book a faithful guide, which progresses strictly upon pedagogic principles.

What I consider absolutely necessary is:

1. That the system be strictly adhered to,
2. That many exercises be laid out in tables (where necessary),
3. That the pupil provide himself with a manuscript music book containing 12 to 14 staves at least on a page.
4. That the given definitions should be well remembered and learnt by heart.

All else will be found in the book itself.

In addition I quote a list of books and works on the study of music worthy of recommendation.

1. Otto Tiersch. "Allgemeine Musiklehre". (Published by Oppenheim, Berlin.)
2. "Vade mecum for Instruction in Singing" by Haller. (Regensburg, Pustet.)

3. „Harmoniumschule" by Cyrill Kistler. (A. W. Rost, Dresden.)
4. „Aufgabenbuch" (Exercise book) to E. F. Richter's Harmonielehre: (Breitkopf & Härtel, Leipzig.)

The material for study in the last named book must naturally be distributed according to the various chapters, for instance; Chapter X should be used for the Extended (übergreifende) Minor System. This chapter X is entitled in Richter's book "The Augmented Chords of the Sixth, Six-four-three and Six-five".

With all treatises this method should be strictly adhered to in making use of Richter's book.

I specify in the various chapters the material for study to be taken from Richter's Exercise book.

In conclusion I feel under the obligation to express my thanks to all those who, directly and indirectly, have assisted me in the compilation of this book.

There are first of all the suggestions of my great teachers v. Rheinberger, Fr. Lachner, and Otto Hieber.

For much I have to thank my friend the late Heinrich Kahl.

Special thanks I owe to Dr. Kliebert, of Würzburg, Prof. L. Thuille, Prof. H. Ritter, of Würzburg, &c. I could mention many other names.

At the same time I ask the favor of a kindly judgment of the book and the pointing out of any mistakes or omissions.

With these thanks and this request I conclude.

Cyrill Kistler.

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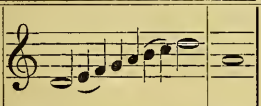
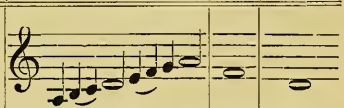
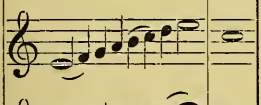
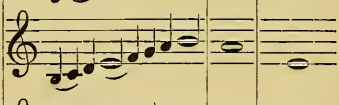
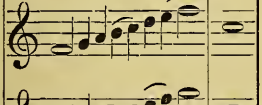
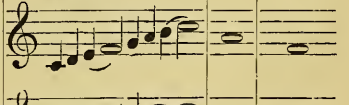
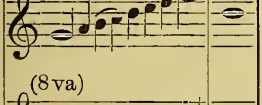
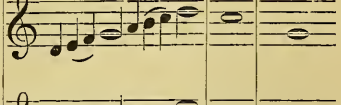
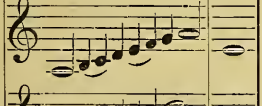
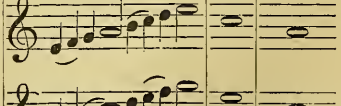
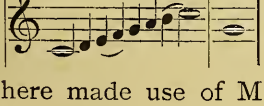
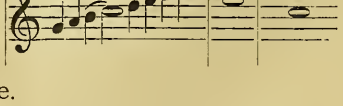
INDEX OF NAMES.

INTRODUCTION.

The following short treatise on the development of music is not intended as a study of the history of musical culture, but merely as a condensed representation of the history of harmony. The first and most important name deserving mention in this narrative of musical development is that of St. Ambrosius, born in the year 333. He became archbishop of Milan, introduced antiphonal singing, and is called the "Father of the Scales". These scales were then called series of tones. Four species of octaves, which are known as the four Ambrosian or Authentic or principal Church modes, were in use: these principal modes are the Dorian, Phrygian, Lydian, and Mixo-Lydian. The melodies of these modes remain, as a rule, within the compass of the tonic and octave.

From the 12th century four more modes were used, viz, The Aeolian, Hypo-Lydian, Ionian, and Hypo-Ionian.

Synopsis of the Church-Modes.

Authentic (Principal) **Modes.**				**Plagal** (Secondary) **Modes.**				
Mode	Denomination	Scales	Dominant	Mode	Denomination	Scales	Dominant	Final or Fundamental Tone
I	Dorian			II	Hypo-Dorian			
III	Phrygian			IV	Hypo-Phrygian			
V	Lydian			VI	Hypo-Lydian			
VII	Mixolydian			VIII	Hypo-Mixolydian			
IX	Aeolian			X	Hypo-Aeolian			
XI	Ionian			XII	Hypo-Ionian			

(8va)

I have here made use of M. Haller's treatise.

This concise representation will serve our purpose: our modern system of scales is developed from these modes.

If we closely examine the ancient scales we find the series of tones numbered VI and XI are like our modern major keys: those numbered I, III and IX show a rather close resemblance to our modern minor keys: the Ionian and Hypo-Lydian series of tones are strictly identical with our modern normal scale of C major.

Further information will be given when the development of our modern major and minor scales is traced.

We now pass on to the practical part of the subject.

Chapter I.

The Conception of Music.

Music, it is understood, is the art of producing sounds by which the emotions of the soul are expressed. If we conceive the three principal tendencies of phantasy—the mother of all arts—to be the plastic, the emotional, and the intellectually-creative, then music is the art engendered by the emotional tendency. Her means of expression are sounds.

In the first place we distinguish two species of music:

1. Music bound to poetry or originating from the sense of a text. We call this conditional or dependent music, also vocal music.
2. Music free from outside influences and appearing as independent art. This is called instrumental music, also absolute music.

Chapter II.

The Tone System.

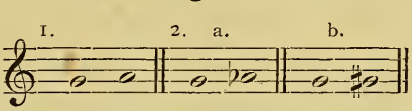
§ 1. The Tone.

Sound originates from the acoustic properties of a body. A regular succession of vibrations is a tone. The acoustic property of a body is determined by the degree of its elasticity. The greater the elasticity the greater the capacity to cause the surrounding air to produce the vibrations which we call sound or tone. The greater the number of vibrations in a given space of time, the higher the tone: the smaller the number of vibrations the deeper the tone. The longer and thicker the vibrating body, the deeper the tone: the shorter and thinner the body, the higher the tone. High tension, high tone: low tension, low tone.

All other information on this matter belongs to the domain of elementary music. (Physics, Acoustics.)

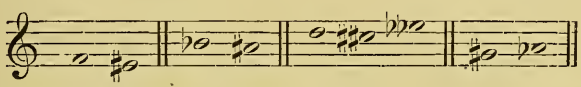
To a musician the conception of tone is an accomplished fact: he compares the tones in their relationship to each other and divides them thus:

1. In whole tones which are progressions from one tone to another, a half tone always finding place between them. This is the case in upward and downward succession.
2. In Half-tones or Semitones:
   a) In large half-tones having their place on the degree following the fundamental tone,
   b) in small half-tones, formed by marks of transposition, and standing on the same degree as the fundamental tone, for instance:



The same rule applies to the position of tones in downward succession.

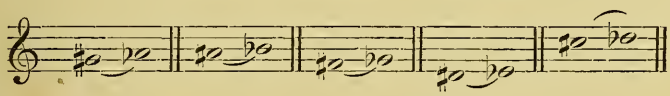
3. In Enharmonic tones. They are the same in sound but differently written: for example:



The signatures of tones are the notes.

We distinguish three tone systems:

1. The diatonic system. Major and Minor. The tones progress in whole and semi-tones.
2. The chromatic system. The tones progress only in semi-tones.
3. The enharmonic system. The tones progress in semi-tones and receive, though of the same sound, different signatures. By enharmonic one understands identical sounds with different notation.

Example: 

All sounds which by their natural qualifications really deserve to be called tones, form the tonal empire from which we construct the musical system.

Synopsis of musical systems:

Diatonic System .	*C*		*D*		*E*	*F*		*G*		*A*		*B*
Chromatic System	*c*	*c sharp*	*d*	*d sharp*	*e*	*f*	*f sharp*	*g*	*g sharp*	*a*	*a sharp*	*b*
SimpleEnharmonic		*d flat*		*e flat*			*g flat*		*a flat*		*b flat*	
Complete Enharmonic . . .	*b sharp* *d double flat* *c*	*c sharp* *d flat*	*c double sharp* *e double flat* *d*	*d sharp* *e flat*	*e* *f flat*	*c sharp* *g double flat* *f*	*g flat* *f sharp*	*f double sharp* *a double flat* *g*	*a flat* *g sharp*	*g double sharp* *b double flat* *a*	*b flat* *a sharp*	*c flat* *a double sharp* *b*

For the modern musician it is absolutely requisite that he should perfectly master these systems.

§ 2. The Scales.

We understand scales to be a series of tones which proceed in succession from the tonic to the octave upwards and downwards.

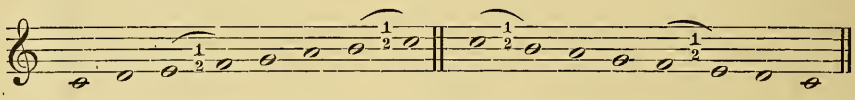
We distinguish the following species of scales:

1. The Diatonic Scales: These we divide into
   a) the major
   b) and minor scales.
   The latter into aa) the harmonic
   bb) and melodic minor scales.
2. The chromatic scales, and
3. The enharmonic scales.

All scales can be constructed on any given tone, but besides naming the tonic it must be specified if the scale to be formed shall be major or minor. The chromatic and enharmonic scales may also be built up from any tone. In sound they will be alike, but the chromatic scale has a different signature with every key.

I. The diatonic major scale.

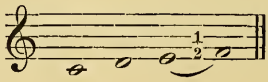
The diatonic major scale proceeds step by step till it contains five whole and two semi-tones.



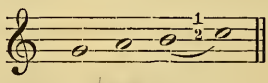
The tones from the third to the fourth and from the seventh to the eighth degrees are semi-tones. This scale is the old Ionian church mode.

Every scale consists of two tetrachords. The Tetrachord is a section of four tones.

The first half of the diatonic scale upwards is called the lower tetrachord. Example:



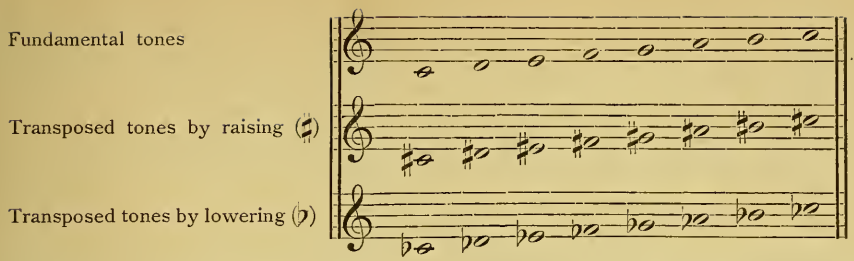
The second half of the diatonic scale is called the upper tetrachord. Example:



Both tetrachords consist of three whole tones and one semi-tone.

The tones of the diatonic scale in C major are called fundamental tones or roots. (White keys of the piano.)

Tones which we derive from a root by raising (♯) or lowering (♭) its pitch are termed transposed, chromatic, secondary or intermediate tones.



On each of these fundamental or transposed tones a diatonic scale in major or minor mode can be constructed.

The tone on which a scale is formed is called the

Tonic:

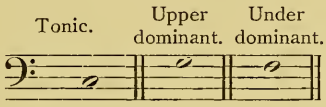
that is the first degree of the scale (fundamental tone). The perfect octave of the fundamental tone is also called the tonic.

The scale is the original melody of every key. Every scale consists of three principal degrees:

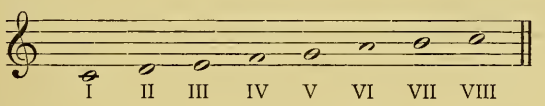
Tonic: first degree.

Upper-dominant: fifth degree.

Lower-dominant: fourth degree. Example:



The tones of every key are designated with regard to their position as intervals from the tonic by figures which denote the degree they occupy in the scale. Example:



This is the same in both major and minor modes.

All these degrees of the scale have still other names.

Degree I. Tonic or root.

„ II. Alternate dominant, the dominant of the dominant.

„ III. Under-mediant, upper third of the tonic or under third o the upper-dominant.

„ IV. Under-dominant, either a whole tone below the upper-dominant or a perfect fifth below the tonic.

„ V. Upper-dominant or dominant, perfect upper fifth or perfect under-fourth of tonic. The tone of the dominant is the ruling tone of every key.

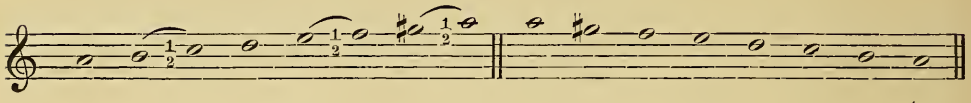
„ VI. Upper-mediant, secondary, parallel key;

„ VII. Leading tone or subsemitonium modi. Its position is directly below the perfect octave of the tonic and leads to the tonic.

The tones of every scale are related to each other. The tone of the upper fifth is related to the greatest number of tones of the scale and is called the dominant because it dominates the key.

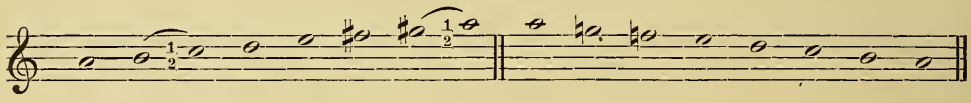
II. The Diatonic minor scale proceeds in two different modes.

a) The harmonic mode. Example:



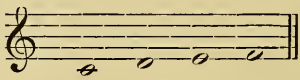
This shows a different construction from the major key. The whole tones (three in number) are between the 1st and 2nd, 3rd and 4th, and 4th and 5th degrees. The semitones (also three in number) are between the 2nd and 3rd, the 5th and 6th, and 7th and 8th degrees. From the 6th to the 7th degrees we find the leap to the augmented second. The harmonic minor scale remains the same upwards and downwards.

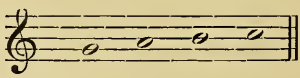
b. The melodic mode. Example:

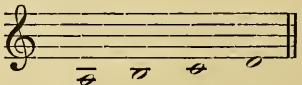


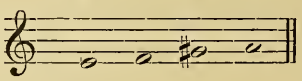
It contains five whole and two semitones. In the downward movement F sharp and G sharp are made naturals. This is in complete accordance with the key signature.

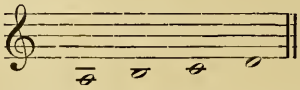
If we compare the scales, which we have constructed up to now, we obtain the following interesting results:

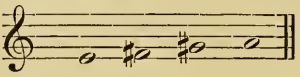
1. The lower major tetrachord  shows a decided major character.

The upper tetrachord  also major character.

2. In the harmonic minor scale the lower tetrachord  is of minor character.

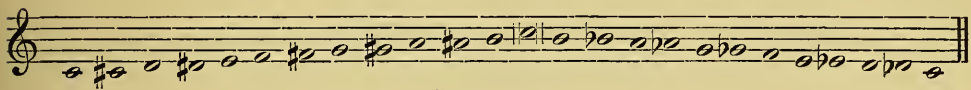
The upper tetrachord  also minor character.

3. In the melodic minor scale the lower tetrachord  is of decided minor character.

The upper tetrachord  decided major character.

A close study of this matter and a deep understanding of its importance are highly necessary as only a perfect knowledge and conception of it can make our modern system of chords in their major and minor combinations comprehensible and render it possible to learn to use in an intelligent manner the major-minor, or minor-major system as it is now in practical use.

III. The chromatic scale does not belong to any key. It proceeds in semitones upwards and downwards. Example:



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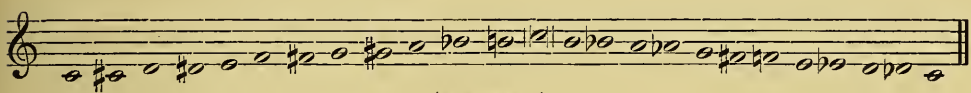


(after Marx)

The latter notation is the better, although the former, on account of its simplicity, may at a first glance seem more deserving of commendation.

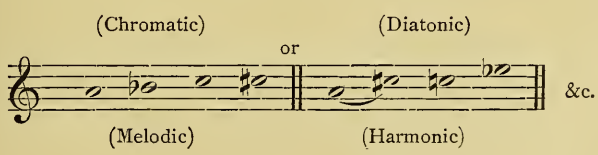
The tones of the chromatic scale have a different notation in every key. It is determined by the relationship between the chromatic tone and the key. (See chromatic scales.)

For instance in G major *F* sharp is more closely related to the key than *G* flat.

In A major *G* sharp is more closely related to the key than *A* flat.

In *G* flat major *C* flat is more closely related to the key than *B* natural etc.

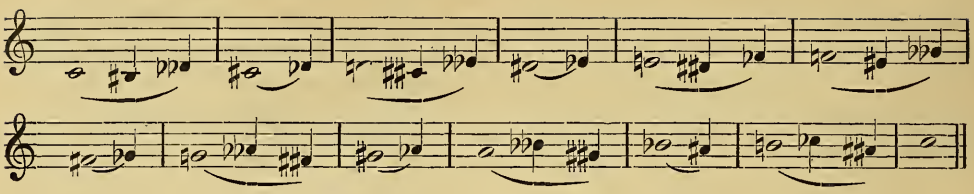
The secondary tones formed from the root-tones have a double character, inasmuch as they, like the principal tones in comparison with another tone, can be conceived to be chromatic or diatonic. Example:



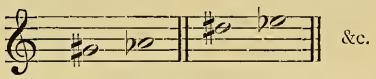
&c.

In addition to the tones belonging to the diatonic scale, the chromatic scale introduces tones which are foreign to it. The use of chromatic tones, in melodic regard, requires much care to prevent unpleasant consequences to the ear.

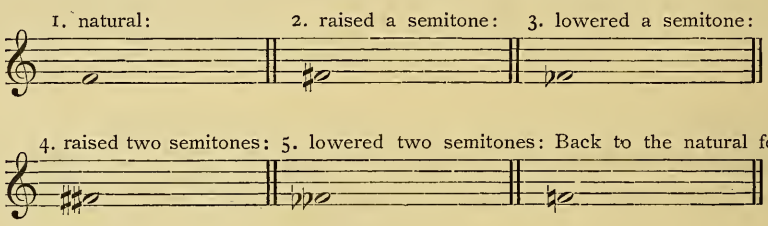
IV. The enharmonic scale. Example:



The enharmonic scale shows us that we properly have 31 chromatic tones. But we acknowledge only five transposed tones, as it is only a different notation for identical sounds, for instance:



We gather from the enharmonic, chromatic and diatonic scales, that every degree can show five different forms. Example:



If we closely examine the three scale systems with which we are acquainted we perceive in them the total sum of all fundamental tones and other tones derived from them in every octave. The enharmonic we shall treat in a chapter by itself in the System of Harmony.

§ 3. The Keys.

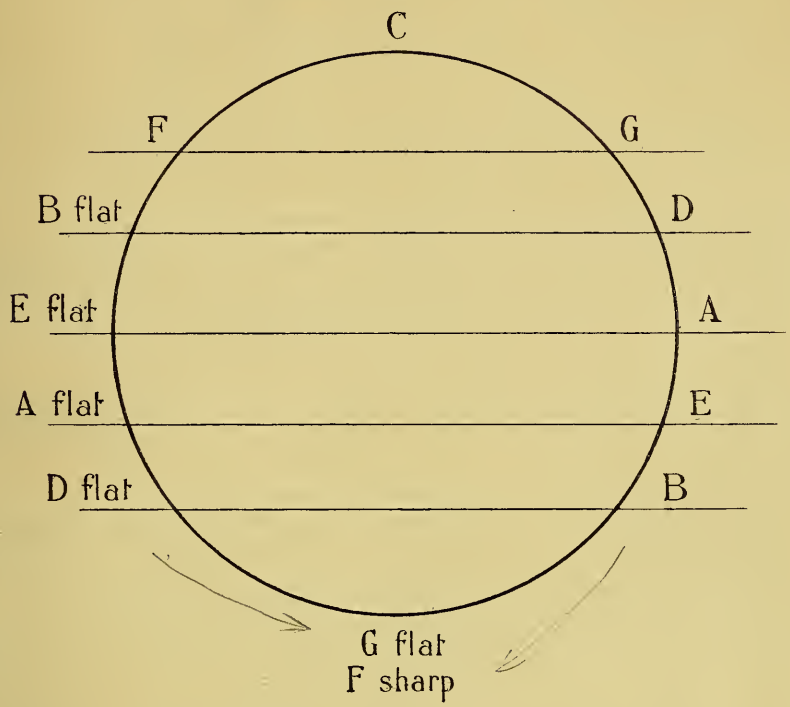
Our modern major and minor keys, 24 in number, are developed from the old church modes. It is here assumed that the pupil has a knowledge of the keys and their signatures. By a key is understood a diatonic scale constructed on any given tone together with the harmonies resulting from the combination of the tones comprised within the scale.

We have not alone major and minor scales, but also major and minor keys, and, therefore, with regard to the regular construction of all major keys, we speak of a major system and likewise of a minor system. In the major system, counting from the tonic upwards we find the major third and the complete Diatonic. In the minor system we have the minor third counting from the tonic upwards, and the modern step from the seventh to the eighth degree (the interval of the augmented second) which give it a partly chromatic character.

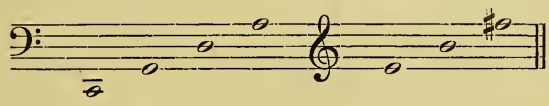
The different keys we form by transposing the normal C major scale and the normal A minor scale into all the tones with which we are ac-

quainted. This transposition always takes place in perfect fifths, whereby we obtain the circle of fifths.

Circle of fifths (major).

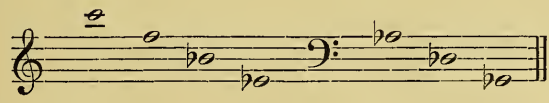


The half circle from the centre point *C* would be thus expressed by notation:



In this manner we obtain the keys with sharp signatures.

The half circle from the centre point *C* to the left would be thus expressed by notation:

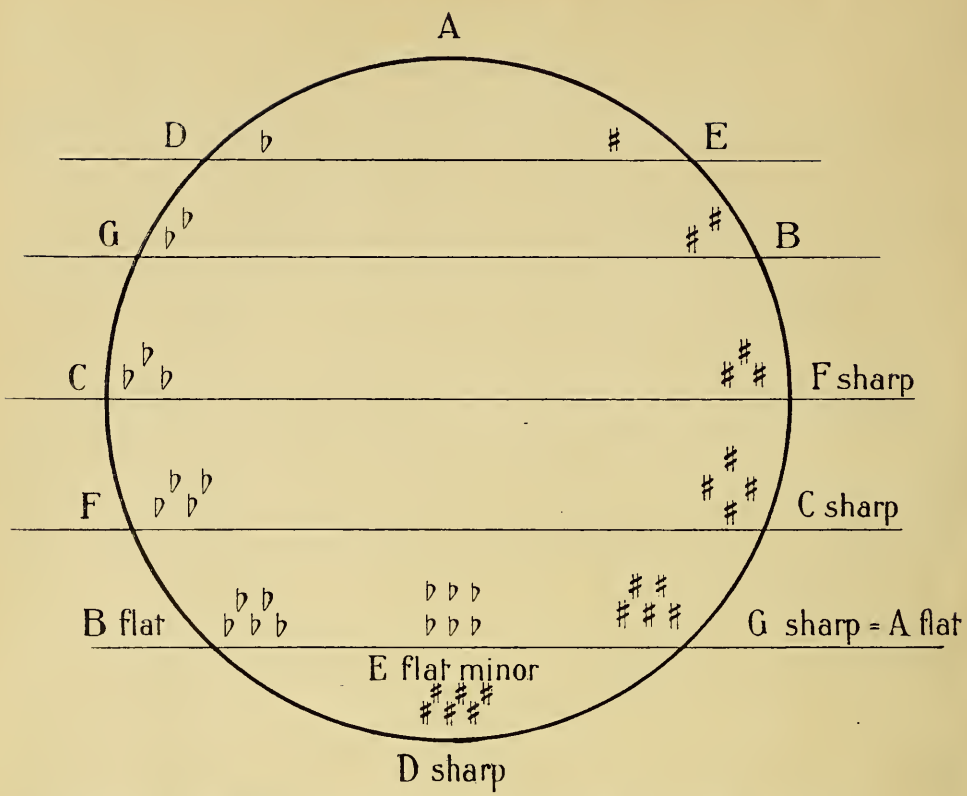


By this means we obtain the keys with flat signatures.

We shall repeatedly refer to the circle of fifths in our treatise.

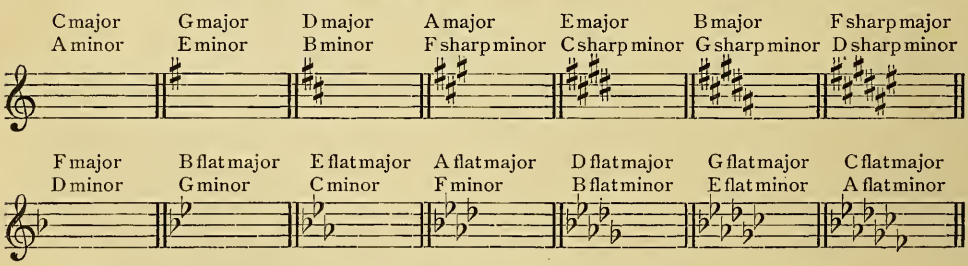
If we follow, starting from the right, the progression of this circle from *C* back to *C* (F sharp must be enharmonically altered to G flat) we find the major keys always in a succession of fifths. It is the same with the circle of fifths in the minor keys.

Circle of fifths (minor).



Here the *D* sharp must be enharmonically changed to *E* flat.

Synopsis of the signatures of all major and minor keys.



The last two keys (C flat major and A flat minor) are enharmonic with B major and G sharp minor.

Two keys with similar signatures are called parallel keys. C major and A minor are parallel keys, the tones *C* and *A* are parallel tones (mediants) etc.

Exercises:

1. Write several circles of fifths commencing from tones other than *C* in major and minor.
2. Write every major and minor scale (of all keys) ascending and descending through two octaves.

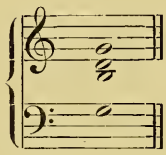
Inasmuch as our modern piano has 12 tones in every octave, and on every tone, both major and minor, scales can be constructed, it follows that we possess altogether 24 keys. Every key may be represented in the melodic and harmonic forms. For instance C major is represented melodically as follows:

*C d e F G a b c.**)

The principal degrees are written in capital letters.

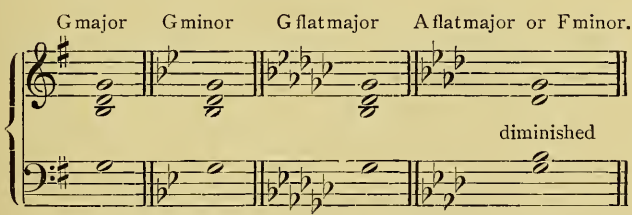
N. B. The harmonic representation will be shown in the chapter on chords.

In connection with the study of triads by the advanced pupil the following experiment, as a preliminary exercise for enharmonics and determination of key, is attended with excellent results. Write a triad without giving any key signature whatever and let the pupil determine what this triad can possibly represent. For example:



This might be G major, G minor, G flat major, the diminished triad of the seventh degree in A flat major, or the second degree in F minor.

One learns from this that our notation receives its decided tone character from the key signatures. Example:



This experiment, which is exceedingly useful for attaining a knowledge of the keys, may be made with several triads and also when we arrive at the chapter on Enharmonics.

§ 4. The System of Intervals.

An interval is understood to be the ratio of distance between two tones, both in melody (the one after the other) and in harmony (the one with the other).

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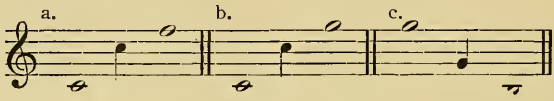
*) In the melodic form of a key the tones proceed step by step (diatonically) but in the harmonic form they proceed in thirds.

To be able to measure the distances, the tones are counted as steps, thus:

1st	step (Prime)	6th	step (Sixth)
2nd	„ (Second)	7th	„ (Seventh)
3rd	„ (Third)	8th	„ (Octave)
4th	„ (Fourth)	9th	„ (Ninth)
5th	„ (Fifth)	10th	„ (Compound Third)

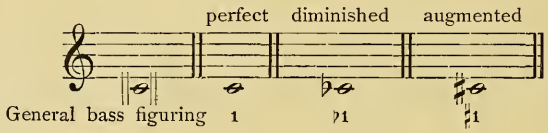
In the following example the distances between the tones are simply reckoned from the nearest octave of the given tone. Example:



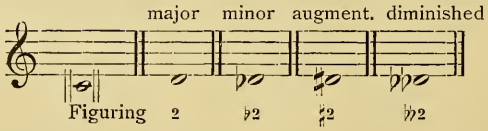
a = fourth
b = fifth
c = sixth.

Intervals are reckoned upwards and downwards, and we meet in this treatise with the following denominations of them: major, minor, perfect, diminished and augmented, which are best explained in a practical way, wherefore we follow on with the single steps from *C* with their alterations. We will add at the same time the figured bass of every interval. The figuring always corresponds with the number of the steps.

I. Prime.

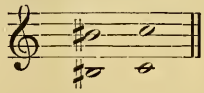


II. Second.



We now introduce the diminished second and do so for the following reason.

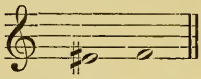
The minor second presents a peculiar appearance. In reality the minor second from B sharp ought to be, in accordance with our notation *C*. Example:



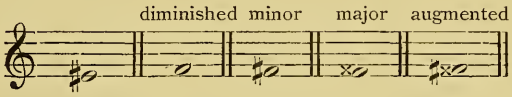
Here the eye will be perfectly satisfied. Not so the ear, which at once detects that we have to reckon with two tones of the same sound.

But the nature of the minor second consists in this, that an interval is produced by which, judging from the sound, a semitone upwards or downwards is formed. (For the ear.) In the above example the minor second forms itself only for the eye.

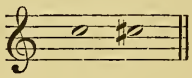
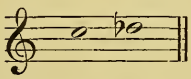
These species of intervals are deceptive intervals. They are of small account but important from the enharmonic point of view.

The same is the case with the tone-step 

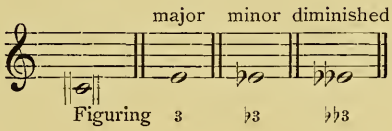
To make up the balance in the system of intervals we must also accept a diminished second. Example:



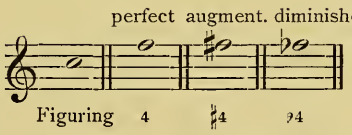
The diminished second plays, in respect of sound, the part of the perfect prime.

The chromatic steps of seconds are also called semitones, and we distinguish minor and major semitones. Example:  This is for instance, a minor semitone, because it is only formed by a mark of transposition.  This is a major semitone formed not only by a mark of transposition but by a change of position on the stave.

III. Thirds.

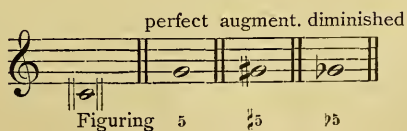


IV. Fourths.

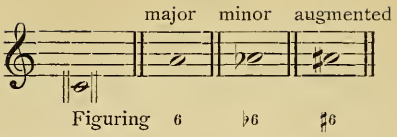


The augmented fourth is also called the Tritone 4^{th} (or Tritonus).

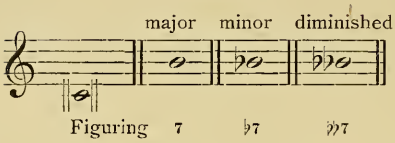
V. Fifths.



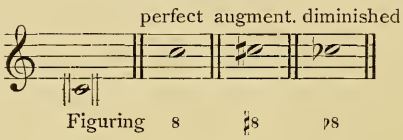
VI. Sixths.



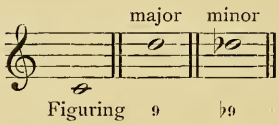
VII. Sevenths.



VIII. Octaves.



IX. Ninths,



The pupil should write every interval from the chromatic scale tones and imprint them sharply on his memory. During the process of constructing single chords this chapter of intervals will have to be gone through repeatedly. For instruction to private pupils as well as for classes the interval-formularies of Friedrich Kempter (published by Böhm in Augsburg) ought to be procured. These formularies will save much time and contain an excellent systematical method for the subject.

But the pupil must take heed especially to impress on his memory the figuring of the single intervals.

It is right to mention here the deplorable fact that too little attention is paid to this matter. Those who desire, musically, to learn to think and hear correctly must study with particular care the interval system. During singing lessons the pupil should be interrogated and instructed on the subject of single intervals. The teacher of harmony should play to the pupil some intervals and let him determine them. (Preliminary exercises from dictation.)

The intervals are classified thus:

1. Consonant intervals. The perfect prime, the major and minor third, the major and minor sixth, the perfect fifth and the perfect octave.
2. Dissonant intervals. The minor, major and augmented seconds, the diminished third, the diminished and augmented fifths and the

augmented and diminished fourths. We specify as well essential and unessential dissonant intervals.

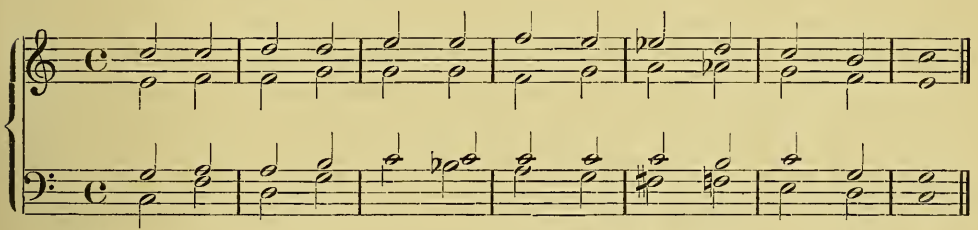
3. Indifferent intervals. To this class belongs the perfect fourth. It forms the transition from dissonance to consonance.
4. Perfect, major and minor intervals.

Those intervals which are a semitone higher than the major are called augmented, and those which are a semitone lower than the minor diminished.

We shall again and again meet with this subject in the system of harmony and be convinced of the necessity for an intimate acquaintance with it. It may be mentioned here that the term "perfect prime" is unimportant in the harmonic sense, only in the inversion to the perfect octave is it important.

Preliminary exercises for the system of harmony, and recapitulation of the system of intervals.

The pupil should figure examples of quite simple four-part writing taking each part singly and proceeding from the lowest to the highest, thus: Bass, Tenor, Alto and Treble. The Bass is always figured with the number 1 because it always takes the part of the prime (root) to the other intervals. For example:

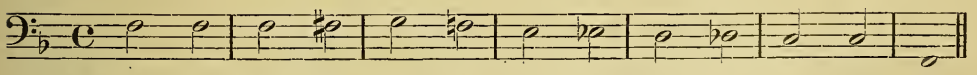


Treble	8	5	8	5	3	4	6	6	♭7	6	6	6	8
Alto	3	8	3	8	5	6	6	8	3	♭3	3	3	3
Tenor	5	3	5	3	1	2	3	4	5	4	6	4	5
Bass	1	1	1	1	1	1	1	1	1	1	1	1	1

The figuring of the raised or lowered intervals is shown in all cases in the system of intervals.

The figures should be read singly from below upwards and the figured intervals always compared with the notes of the single voices.

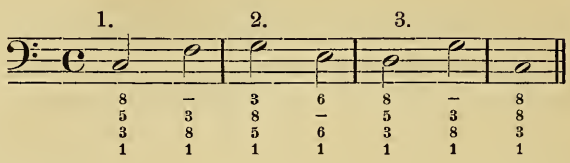
In the following example the pupil should place the notes himself in their respective parts, starting from the tenor upwards:



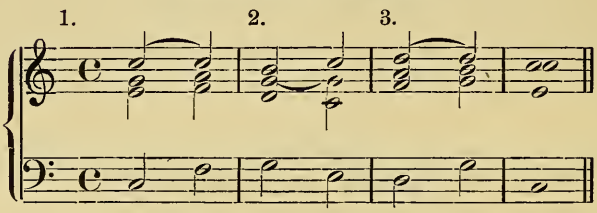
Treble	8	7	♭7	6	5	6	7	6	7	6	6	5	8
Alto	3	3	3	3	8	2	3	3	♯3	♯3	4	3	8
Tenor	5	5	5	5	3	4	5	4	5	6	8	7	3
Bass	1	1	1	1	1	1	1	1	1	1	1	1	1

In regard to the accidental marks of transposition, ♯ or ♭, the student is referred to the chapter on "General bass figuring". (Thorough-Bass.)

The following mark in a figured part denotes that the given interval remains in its position. For example:



Completion of example:



It is to be remarked that the *C* in bar 1 is in the first instance conceived as an octave and then as a fifth.

In bar 2 the *G* in the Alto is written first as an octave and afterwards as a third.

In bar 3 the *D* in the treble is conceived as in bar 1.

In the construction of chords we always reckon from the bass upwards.

Choral song-books and the organ accompaniments to folksongs provide the best material for this branch of exercises. Examples should be copied and figured as above before the theoretical study of chords is commenced.

Those who assiduously work at such exercises will quickly attain to the wished for proficiency in harmony.

Chapter III.

The System of Harmony (Chords).

The system of harmony comprises the teaching of the origin, combination, resolution and alteration of chords. It makes us acquainted with the various chords and shows us the way to utilise them.

A harmony or chord is the simultaneous striking of several tones.

Harmony is based on the scale. If to one tone be added a second, third, fourth, fifth etc., a harmony arises. These connected tones must stand in a certain mathematical relationship to each other.

All original harmonies or fundamental chords are formed by a systematical building up of thirds. (Harmonic representation of the keys.)

Every true harmony must lend itself to inversion. Still there may occur restrictions which do not, however, make the existence of a true harmony questionable, as, for instance, in the chord of the ninth. The aim of harmony is to accompany melody, or to operate independently.

To make it easier to get a general view of the great number of chords occurring in music we make the following divisions:

1. Harmonies in the major system;
2. Harmonies in the simple minor system;
3. Harmonies in the extended minor system.

Within the systems are contained: a) Triads,
b) Chords of the seventh,
c) Chords of the ninth.

Moreover we divide the chords into

a) Diatonic chords, viz: all those which are formed within a key, consequently all chords which belong to the scale:

b) Chromatic chords, which extend from one key to another.

When striking chords on the piano, dynamic laws must be strictly observed, that is, the separate tones of each harmony must be played with equal strength: the tones, beside, must be played strictly together, not one after the other.

§ 1. The Triad.

The triad arises when to a given tone the third and fifth in an upward direction are added. If it be a major third and the perfect fifth it is called a major triad.

Older theorists call the major triad also the hard triad. This is not right, however, for the A flat major triad, the G flat major triad, as well as the C major triad, certainly do not sound hard.

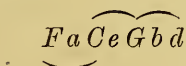
We develop our triads from the tones of the normal scales.

The normal scale of *C* is represented thus in letters:

C d e F G a b c.

This is the melodic (step by step) representation of the key.

We obtain the chords of every key by arranging the tones in thirds instead of in the melodic-harmonic way, for instance:



These are the seven tones of our scale put in harmonic order. They give us the three principal degrees of the key.

All triads are fundamental chords:

1. Because they are constructed with thirds,
2. Because we derive other chords from them.

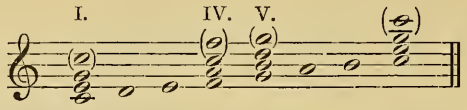
§ 2. Triads in the major system.

a) The major triad.

Repeat here from the system of intervals the Prime, the Major Third, the Perfect Fifth, and the Perfect Octave of every chromatic tone.

In four-part writing the major triad consists of the Prime, major third, perfect fifth and perfect octave.

Example:



In the major system the major triads have their position on the 1st, 4th and 5th degrees.

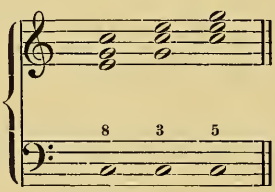
The pupil should adopt the above scheme, and write out these triads in all keys.

Every interval of the triad can be the highest part.

1. When the octave is the highest part the triad is in the octave position.
2. When the third is the highest part the triad is in the third position.
3. When the fifth is the highest part the triad is in the fifth position.

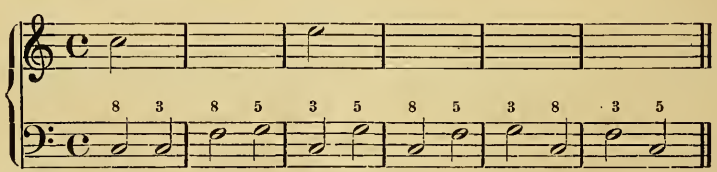
We figure the triad in the octave position 8,
„ „ „ „ „ „ Third „ 3,
„ „ „ „ „ „ Fifth „ 5.

Example:



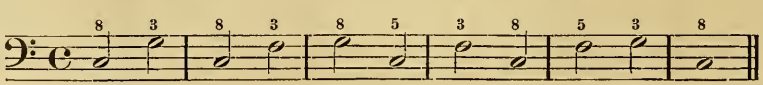
This example *is to be written in all major keys.* The pupil should write first and then play all the combinations of chords in the close position. For the present the examples are so given that faulty progressions are impossible.

Example:



The pupil should here fill in the upper parts of all the triads.

Example:



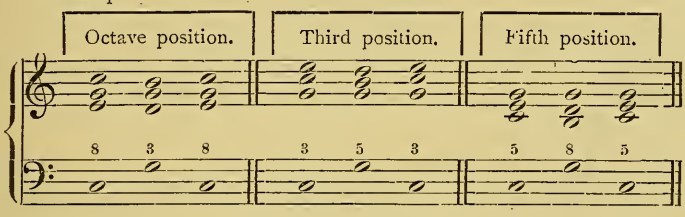
In the major scale major triads are found on the 1st, 4th and 5th degrees.

These degrees are in major and minor the principal degrees of the key, consequently the harmonies based on them are the principal harmonies of a key. The triad built up on the first degree is called the triad of the tonic, that on the fifth degree the triad of the dominant, that on the fourth degree the triad of the under or sub-dominant.

§ 3. Connection of the principal harmonies of a key with each other.

1. Connection of the triad of the tonic with the triad of the upper-dominant.

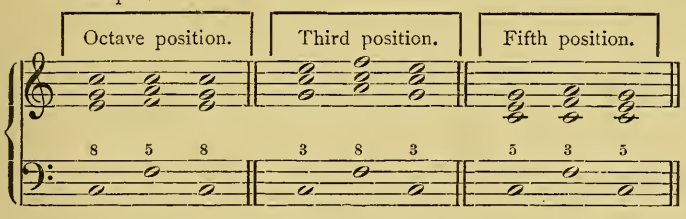
Example:



The pupil should write out these connections in all sharp and flat keys and play them by heart.

2. Connection of the triad of the tonic with the triad of the sub-dominant.

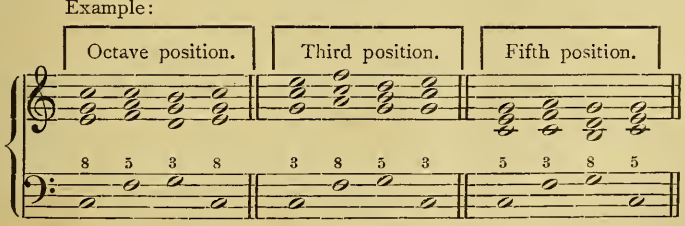
Example:



The pupil should write out these connections in all sharp and flat keys and play them by heart.

3. Connection of the triad of the tonic with the triads of the under and upper dominant.

Example:



The pupil should write out these connections in all sharp and flat keys and play them by heart.

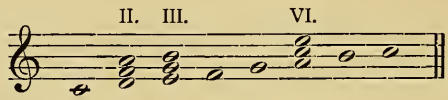
b) The minor triad in major.

The minor triad should be repeated from the system of intervals and compared with the major third.

On the 1st, 4th and 5th degrees of the major scale we found the major triads.

Now we will find the minor triads of the major scale.

Example:



The minor triads in the major system are found on the 2nd, 3rd and 6th degrees.

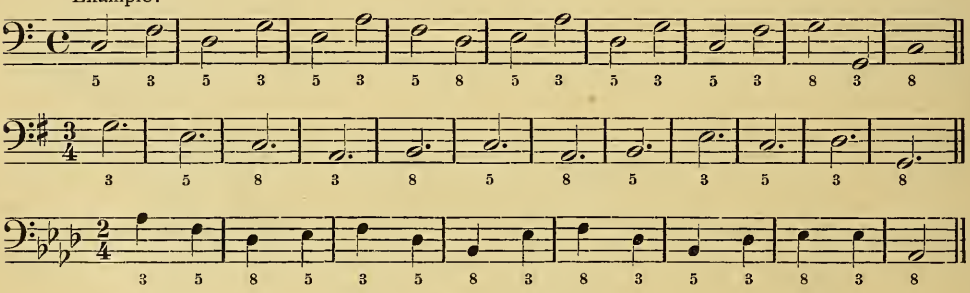
The difference of these triads from the major triads is that they consist of Prime,

Minor third and

Perfect fifth.

The characteristic mark of difference is therefore the third, which is major in the major triad and minor in the minor triad.

Example:



Thus far the positions of each triad are correctly fixed, and in consequence no doubt can exist which could lead to mistakes in the progression of the separate voices (or parts) or in the resolution of the single intervals.

The principal rules for resolving the separate intervals of the triads are:

The Bass can progress in a diatonic manner (conjunct movement) or by leaps (skip movement).

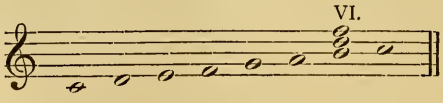
The Third is resolved upwards in most cases, because it has a leading character, especially in the upper-dominant triad.

The fifth can be resolved upwards or downwards.

We have now made the acquaintance of the major triads of the 1st, 4th and 5th degrees, also the minor triads of the 2nd, 3rd and 6th degrees in major.

There remains yet the triad of the seventh degree of the major scale, which we call the diminished triad.

Example:

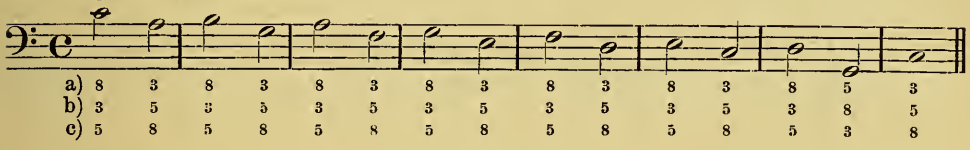


The diminished triad consists of Prime,
minor 3rd, and
diminished 5th.

Repeat from the system of intervals the diminished 5th and compare the perfect and diminished 5ths. The characteristic tone-peculiarity of the diminished triad is its minor third and diminished 5th. (More of the diminished triad further on.)

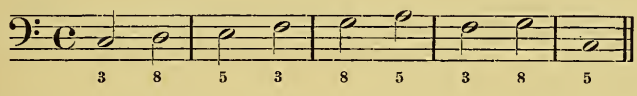
Connection of all major triads with each other.

Figured Basses:



This example is to be filled up in the three different ways of figuring indicated. The pupil must always determine the character of the triad, whether major, minor, or diminished.

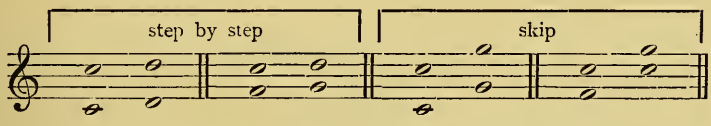
Example:



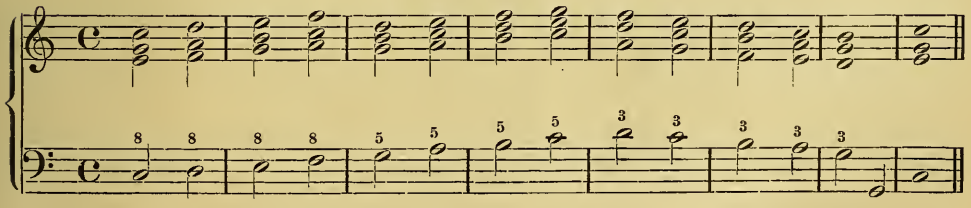
Two triads in the same position can only follow each other if no forbidden tone-steps arise thereby.

Such forbidden consecutives are progressions of fifths and octaves in the same direction (parallel progressions) occurring diatonically or by skip.

Example:



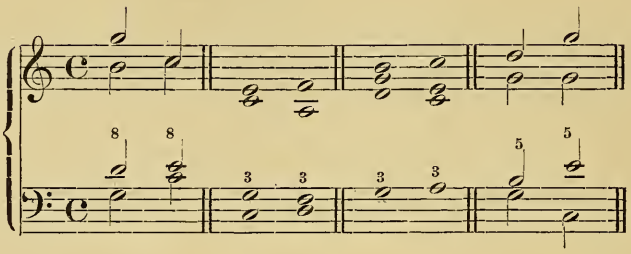
The following succession of chords is utterly wrong:



The pupil should point out the mistakes.

From this it follows that triads in the same position cannot move in a diatonical order unless consecutives be avoided. This can be done

by bringing the parts which contain the wrong progressions into contrary motion, thus:



(See the chapter on consecutives and various musical motions.)

Any key can be represented harmonically as well as melodically by letters. From such representation the following is developed:

$$\underset{\smile}{F\,a}\,\overset{\frown}{C\,e}\,\underset{\smile}{G\,b}\,d.$$

This is the harmonic representation of C major. It contains every tone of the C major scale and from it the principal harmonies of the key develope. To trace all the harmonies of a key from this representation the following rules hold good in all cases:

1. Fix the principal harmonies of any key in the manner of the above example. The first harmony thus obtained is that of the under-dominant, the second that of the tonic, and the third that of the upper-dominant.
2. When these chords have been found take the lowest tone at the left and put it as the highest tone to the right until the original representation is regained. In this wise all harmonies which exist must be found.

Mode of proceeding:

$$\underset{\smile}{a\,C}\,\overset{\frown}{e\,G}\,\underset{\smile}{b\,d}\,F$$

These are the minor triads of the 6th and 3rd degrees and the diminished triad.

$$\underset{\smile}{C\,e}\,G\,b\,d\,\underset{\smile}{F\,a}$$

This is the minor triad on the 2nd degree.

The pupil should trace in this manner the triads of several keys.

Here the system of *close and wide harmony*, so far as it refers to the triads, is to be included. (See Triads.)

The exercises on page 1 of Richter's Exercise-book should be put

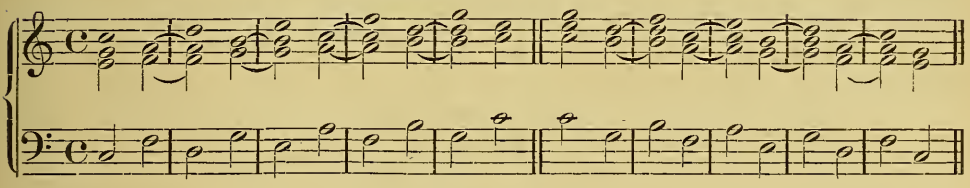
1. in close position, then immediately
2. in wide harmony, and then
3. in mixed harmony, the latter so that in every example and in all connections of chords the demands of musical beauty are satisfied.

On Sequences with Triads.

§ 4. The Sequence

is the repetition of a harmonic group in another position of the stave, either a half or a whole tone upwards or downwards.

Sequences with Triads.



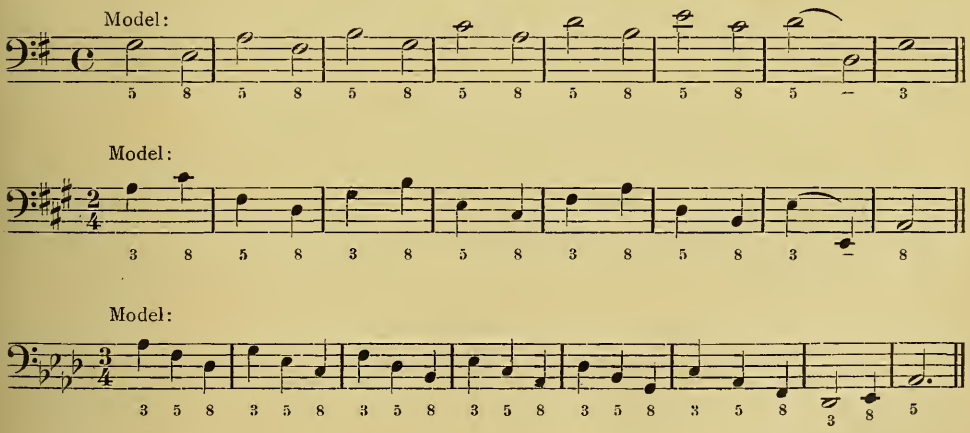
Therefore when several quite identical or similar harmonic movements persistently follow each other, they are called sequences.

If a bass part progress in the same regular intervals, all other parts follow it with the same regularity and from this the sequence arises.

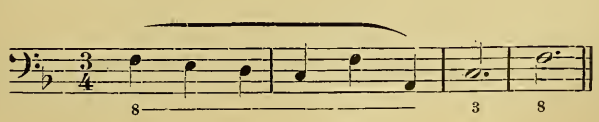
The first bar (the origin of the sequence) is called the Model.

Strict sequences are those which keep literally to the model, but *free sequences* do not keep slavishly to it, they only follow it in a similar way.

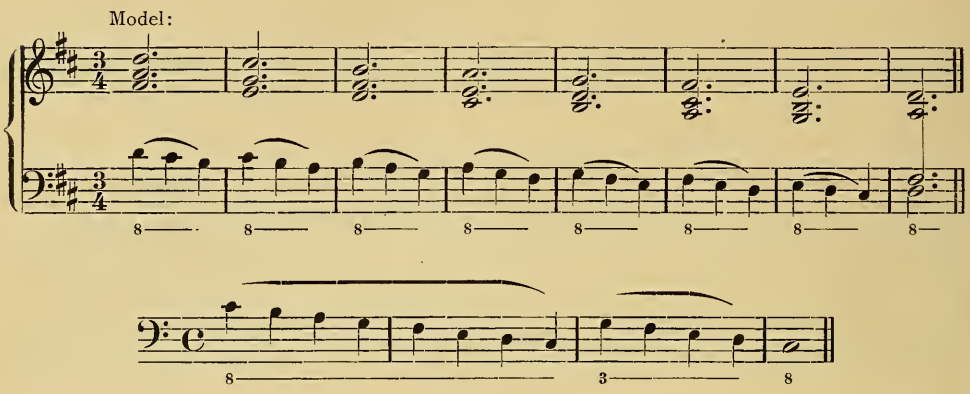
Figured Basses.



On general bass-figuring. A frequent occurrence in general bass figuring is the following: a figure followed by a line thus:



It means that the bass progresses to the next figuring while the highest parts (harmony) remain stationary.



To extend our material for chords we will trace the triads of the simple minor system.

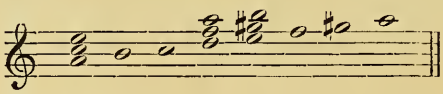
§ 5. Triads of the simple minor system.

D f A c E g♯ b = the harmonic representation of the A minor key:

A c e = tonic minor triad:

E g♯ b = upper-dominant triad, minor mode:

D f a = under-dominant triad, minor mode.



Here the triads constructed on the tonic and under-dominant are minor triads: the one on the dominant is a major triad. In major keys the principal harmonies are constructed alike, but it is not so in minor keys.

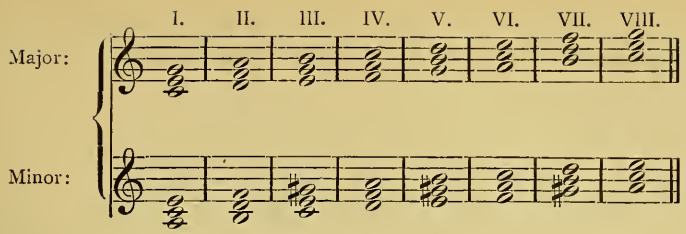
f A c E g♯ b d.

Here we have the major triad on the 6th degree in minor, *F-a-c*; the augmented triad on the third degree, *C-e-g♯* and the diminished on the 7th degree, *G♯-b-d*.

A c E g♯ b d f.

B-d-f is the diminished triad of the 2nd degree in the minor mode which we meet in the major mode on the 7th degree.

The best comparison, musically represented, between major and minor, is as follows:



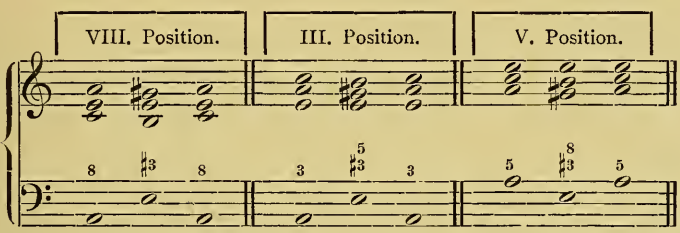
The Roman figures denote the degrees.

The pupil should here compare the triads on each degree of the C major and A minor keys and make similar comparisons in other keys.

We have already gone through the following triads in the major and simple minor systems:

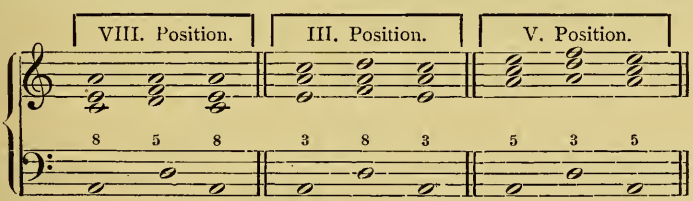
1. The major triad.
2. The minor triad.
3. The diminished triad.
4. The augmented triad.

Connection of the Tonic and Upper-dominant Triads (Minor).



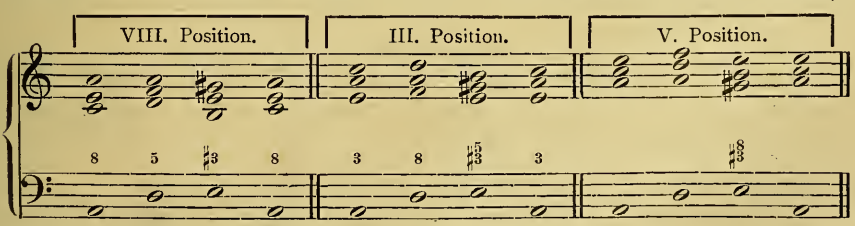
The pupil should write this in all minor keys and play it by heart.

Connection of the Tonic and Under-dominant Triads (Minor).



The pupil should write this in all minor keys and play it by heart.

Connection of the Tonic, Under- and Upper-dominant Triads (Minor).

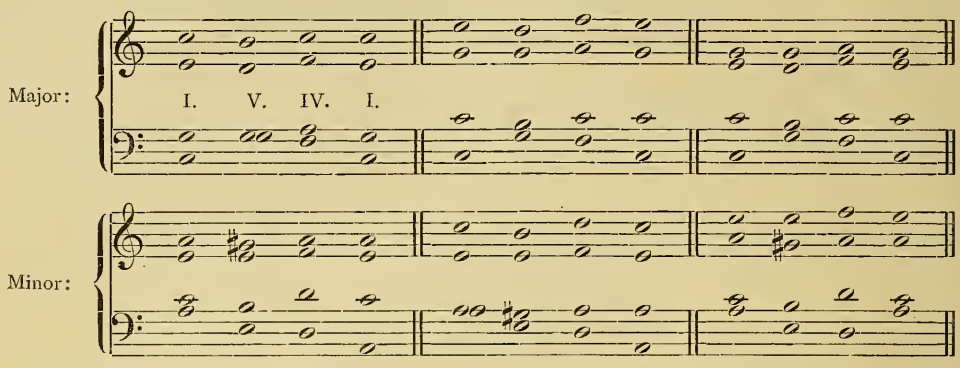


The pupil should write and play this in all minor keys.

The connection of the three principal harmonies of a key when inverted is a source of great difficulty to beginners.

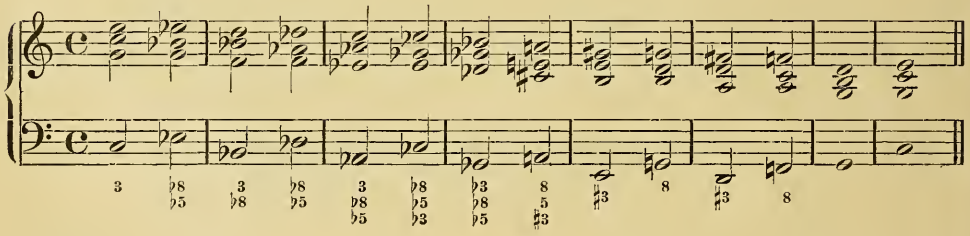
I give the connection here:

Tonic, Upper-dominant, Under-dominant, Tonic.

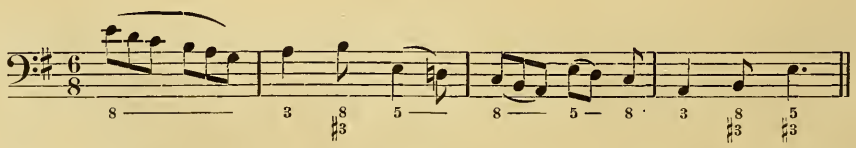


The pupil must play these examples in all major and minor keys. This is very important in all exercises dealing with triad-connections.

On General Bass-Figuring. The chromatic raising or lowering of notes in a composition is indicated by the signs ♯ or ♭ being placed before them. In figured basses the ♯ or ♭ is also put before the figuring to denote the raising or lowering of the interval. For example:



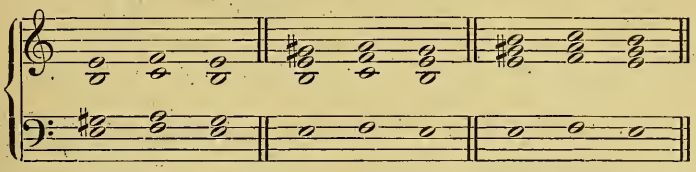
In the following example there arise between the upper voice and the bass so-called False Relations, which are permissible. (See False Relations.)



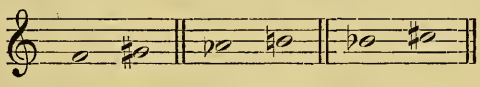
In the connection of the Tonic, Upper- and Under-dominant triads the following should be remembered:

1. In the major there are three triads: major triads;
2. In the minor there are the Tonic and Under-dominant triads: minor triads: the Upper-dominant triad, on the contrary, is major.

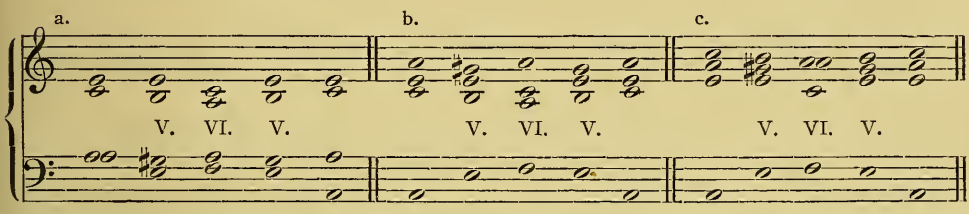
Many pupils experience great difficulty in connecting the chords of the V. and VI. minor degrees. The following would be absolutely faulty:



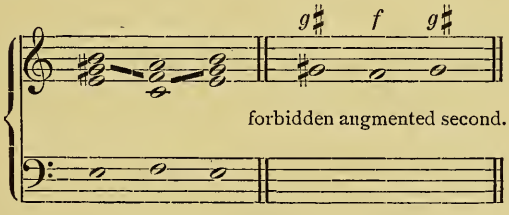
This example is crowded with forbidden progressions of octaves and fifths. The various parts must be so distributed that the faulty progressions are avoided. It should be further remarked that the parts must proceed in such a wise that the interval of the augmented second (which also belongs to the forbidden progressions) is avoided.



The following progressions are allowed.



The augmented second would arise by faulty progression, thus:



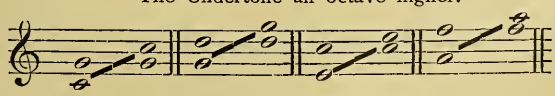
§ 6. Inversions of Intervals.

As a preliminary study the whole of the system of intervals should be gone through again.

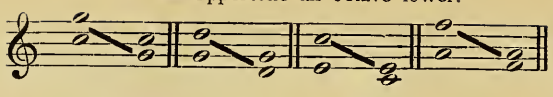
The inversion of an interval arises when the two tones which form the interval are brought into reverse relations.

This inversion is brought about by the originally lower tone being made the upper tone or vice versa. For instance:

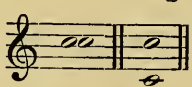
The Undertone an octave higher.

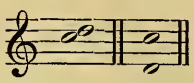


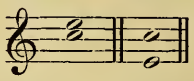
The Uppertone an octave lower.

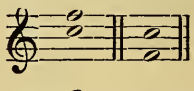


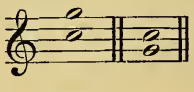
The inversion of the intervals is attended by the following results:

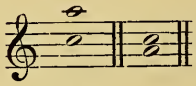
By inverting the Prime the Octave arises 

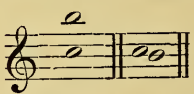
„ „ „ Second „ Seventh „ 

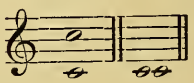
„ „ „ Third „ Sixth „ 

„ „ „ Fourth „ Fifth „ 

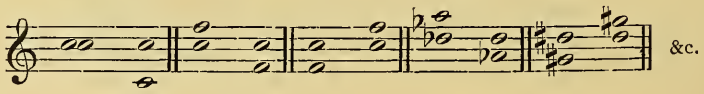
„ „ „ Fifth „ Fourth „ 

„ „ „ Sixth „ Third „ 

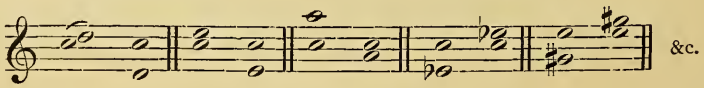
„ „ „ Seventh „ Second „ 

„ „ „ Octave „ Prime „ 

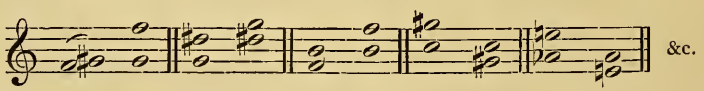
Inverted perfect intervals remain perfect intervals:



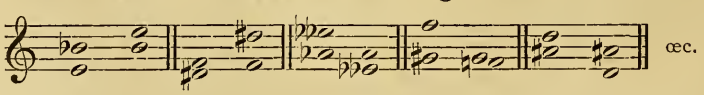
Inverted major intervals become minor intervals:



Inverted augmented intervals become diminished intervals:



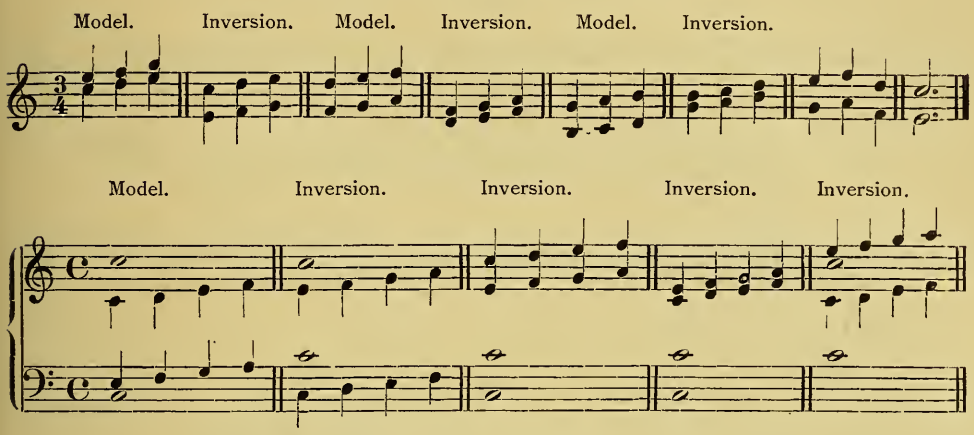
Inverted diminished intervals become augmented intervals:



These inversions can be made with all intervals through the whole chromatic scale.

Here musical dictation should commence. The teacher should play to the pupil suitable examples, and the pupil should write them down. For instance:

Dictation. (Inversion of Intervals.)



As a preparative for improvisation on the piano or organ such exercises are indispensable.

§ 7. Inversions of the Triad.

The inversion of a chord is totally different from the representation of a chord in its several positions.

If we, for instance, represent the triad in its various positions, the bass note remains unaltered always.

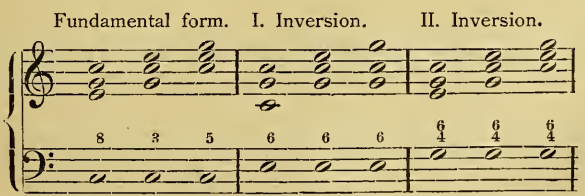
But in the inversion of a chord the original bass is altered and *an interval* of the chord becomes the bass.

We form all our fundamental chords by a systematical building up of thirds. In like manner we construct our inversions (derived chords) from the tonic of the fundamental chord upwards.

Starting from the tonic we take the first third, then the second, third, &c. of the fundamental chord and make these intervals the bass.

By this method the interval-relations of the chord-tones are altered analogously with the inversions of the intervals.

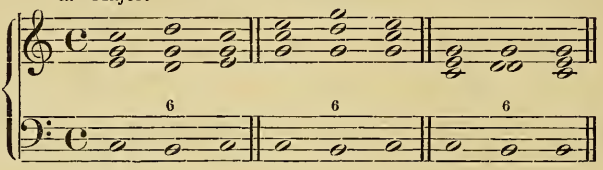
If we make the first third of the triad the bass note the chord of the 6^{th} arises: if we use the second third (fifth) as the bass note we obtain the chord of the Six-four.



The first chord of the 6th appears in the sixth, the second in the octave, and the third in the third positions. The first chord of the six-four stands in the fourth, the second in the sixth, and the third in the octave positions. These inversions are the same with all triads.

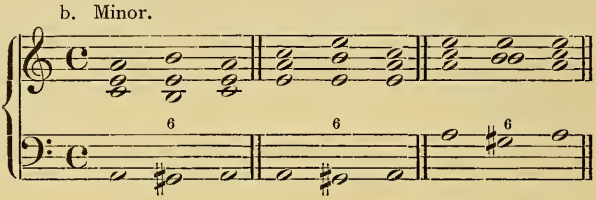
Connection of the Tonic Triad with the chord of the Sixth derived from the Dominant Triad.

a. Major.



The pupil should write and play this in all keys.

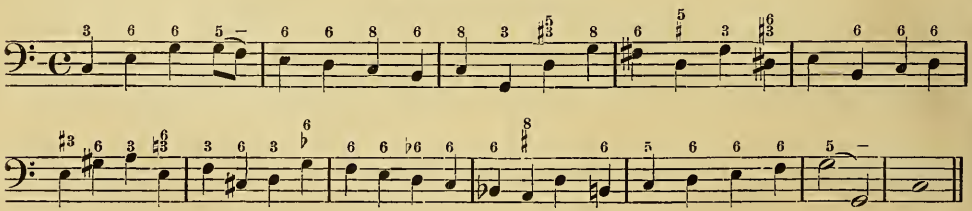
b. Minor.



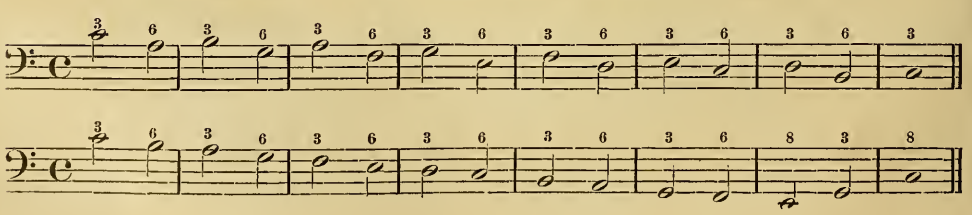
The pupil should write and play this in all keys.

With these chords of the 6th it is not advisable to double the bass, because from its nature as the original third it possesses a leading character and by doubling it consecutive octaves might easily arise.

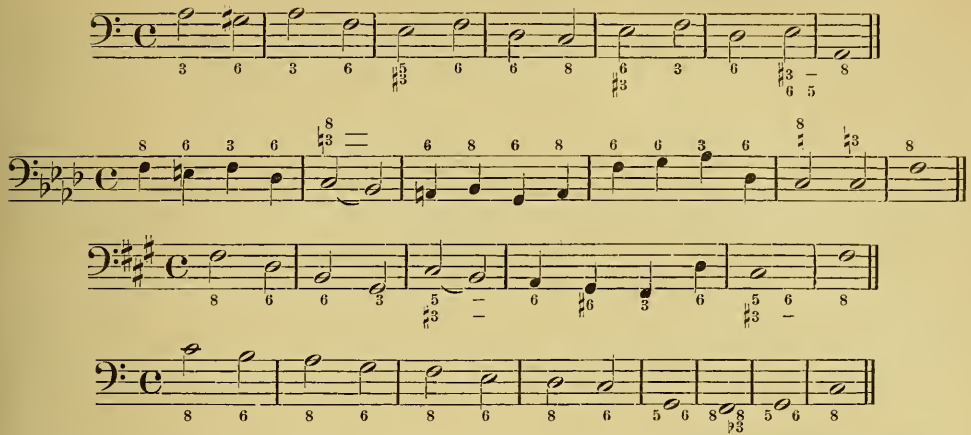
Figured Basses.



Sequences with Chords of the Sixth belonging to the scale.

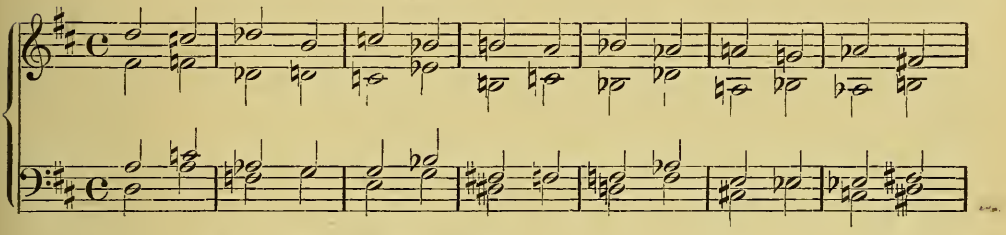


Free examples.

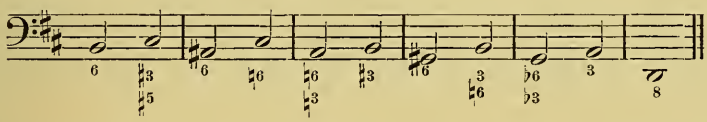


The intervals of the following example should be correctly figured.

Model from "Siegfried", by R. Wagner.

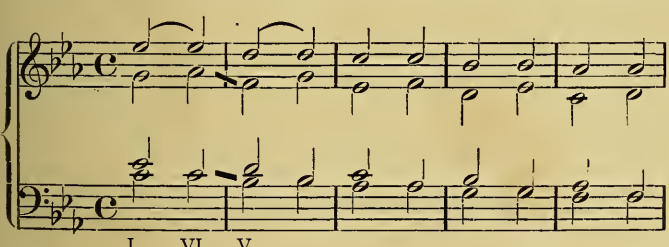


The pupil must now figure all basses himself.

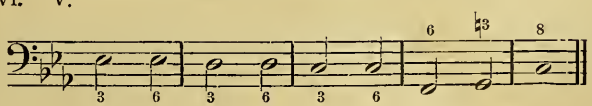


This example is conceived as instrumental music, and would, on account of its augmented second and diminished fourth progressions and its false relations (Querstände) be bad for vocal purposes.

The following example is to be figured, and in the chords of the sixth the principal degrees are to be indicated from which the chords are derived.



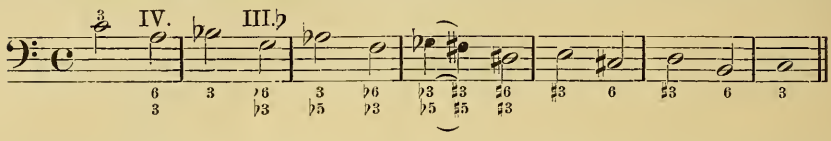
The further development of the example is left to the pupil.



Note in this example:

1. The hidden fifth between the Alto and Bass.
2. The doubling of the Tenor and Bass to avoid faulty progressions (octaves between the Treble and Tenor if the Bass be not doubled).

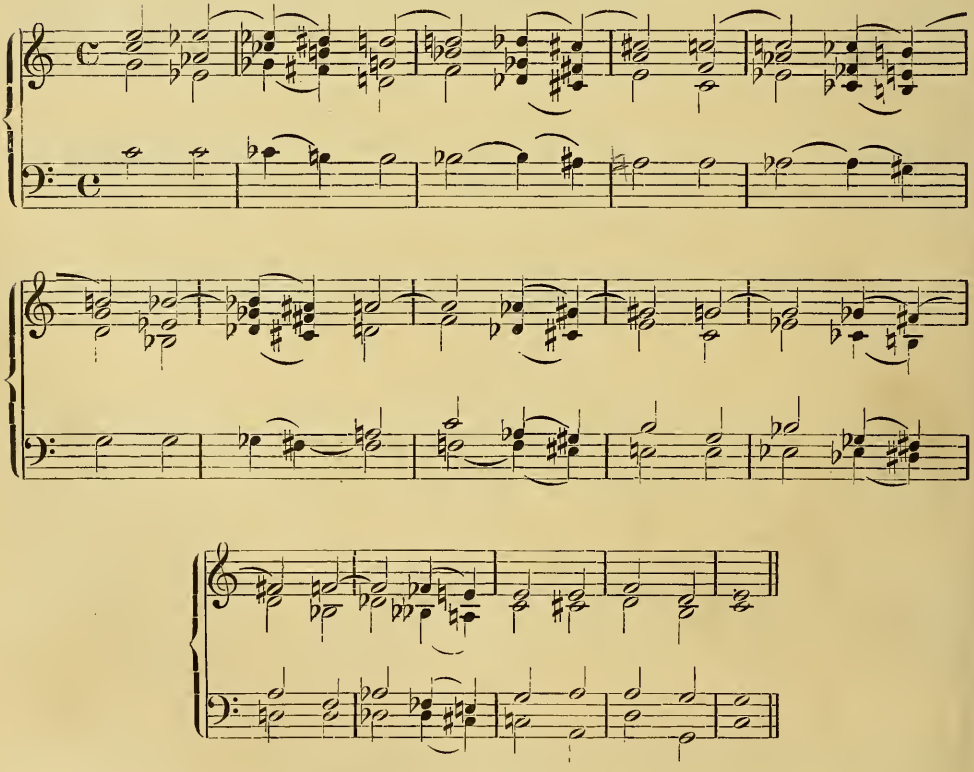
Triads and Chords of the Sixth in the Circle of Fifths.



Indicate by the number of their scale degrees the fundamental tones of the triads from which the chords of the 6th here written (including those of the chromatic derivation) originate.

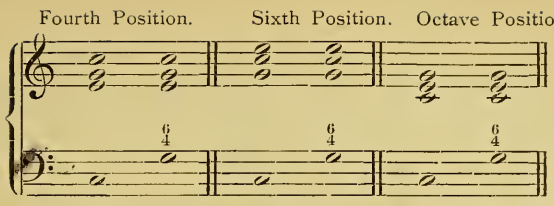
Chords of the Sixth in the Enharmonic Circle of Fifths with Enharmonic Changes.

This example should be figured and analysed.

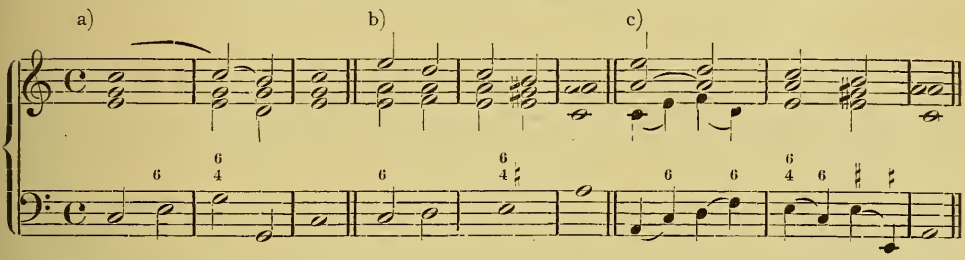


Note particularly the binding of the enharmonic chords.

By inverting the second third of the triad the chord of the six-four ($\frac{6}{4}$) is obtained. (This second third plays the part of the fifth in the triad.)

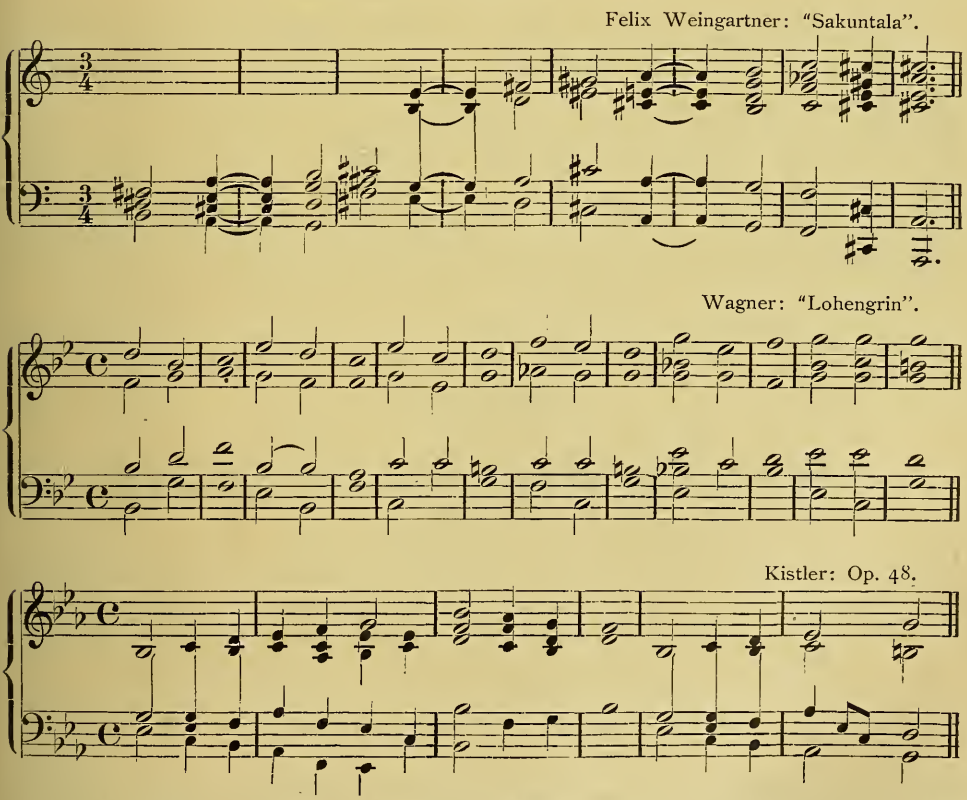


The chord of the six-four should, if possible, be avoided altogether in a composition because it invariably suggests a cadence. (See Cadence.)



The examples under b and c are submitted to the consideration of the teacher.

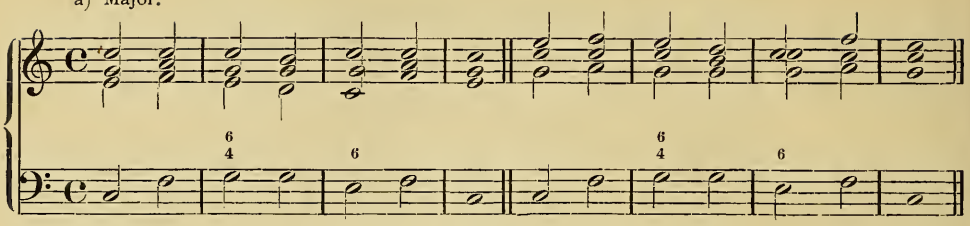
Interesting Progressions of Triads.



The octave progressions in the basses are to be regarded as a permissible means of strengthening.

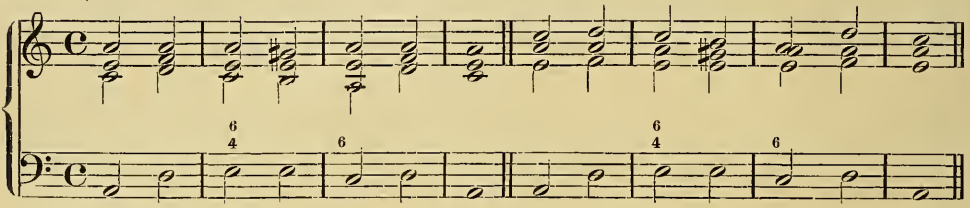
Short Cadences employing Inversions of Triads.

a) Major.



Write and play these in all keys. Write also in the fifth position.

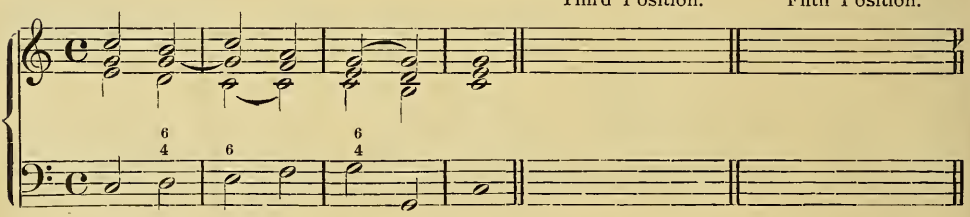
b) Minor.



Write and play these in all keys. Write also in the fifth position.

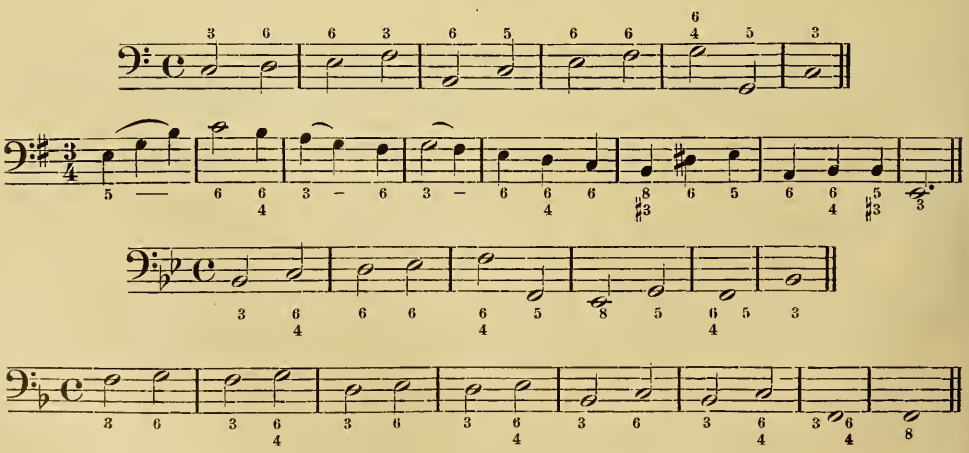
Connection of the Chords of the Sixth and Six-four ($\frac{6}{4}$) and Triads.

Third Position. Fifth Position.

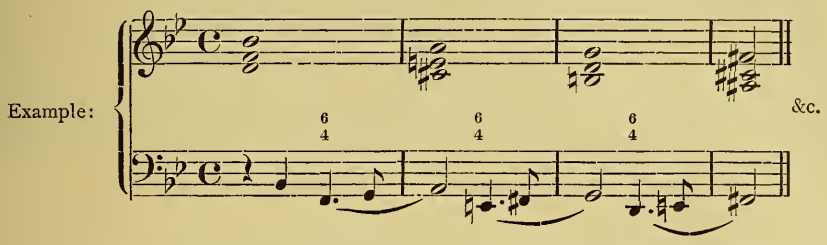


Write and play in all major and minor keys.

Figured Basses.

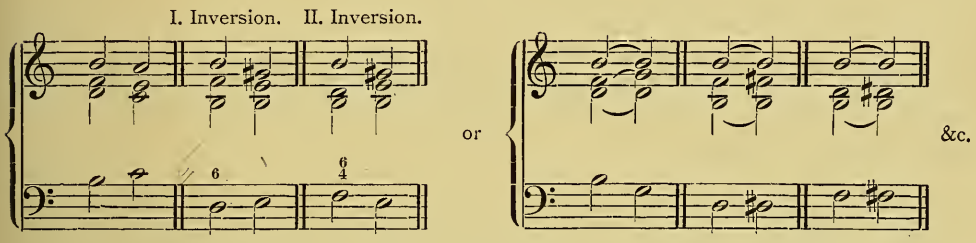


The chord of the six-four should only be used in a transient manner when writing a composition.

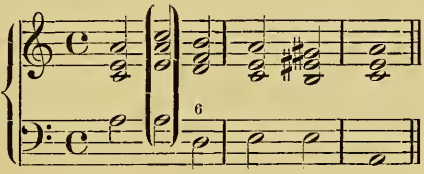


§ 8. The Diminished Triad

contains a minor third and a diminished fifth. It stands, in the major scale, on the seventh degree, in the minor on the second and seventh degrees, with exactly the same construction of intervals. The inversions are as in the other triads. It has a leading character in the bass. The resolutions are as follows:



The diminished triad is not often employed in its fundamental form. In practice it appears mostly in Sequences. The first inversion of this chord is used in the minor cadence, and here it takes the place of the under-dominant.

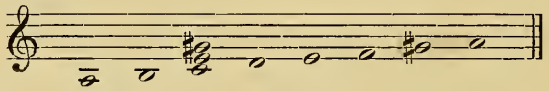


The diminished triad gains importance from its being the first dissonant triad of our musical system: the diminished fifth is its dissonance.

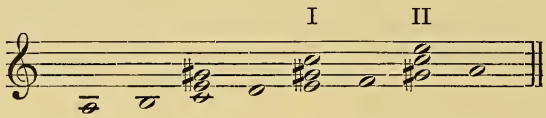
§ 9. The augmented Triad

consists of a major third and an augmented fifth, and is the antithesis of the diminished triad: its dissonance is the augmented fifth. It sounds

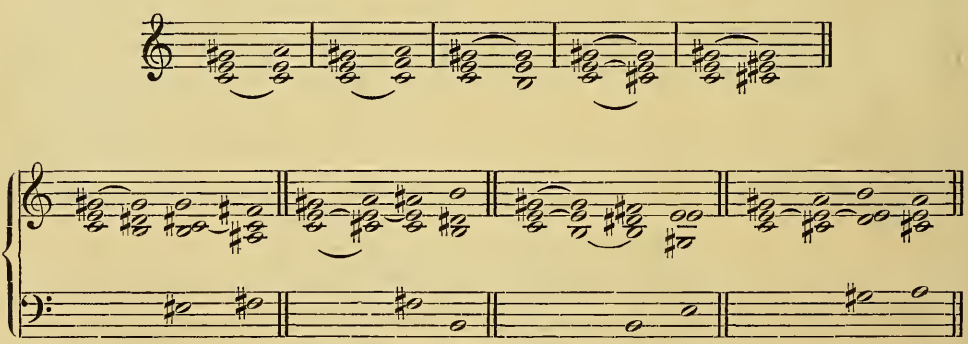
harsh and piercing. This chord is very interesting on account of its independent nature and manifold (enharmonic) meanings. The old theorists designated it simply an artificial and altered chord. Wagner, by his frequent use of it, has made us observe that the "augmented" triad is an independent consonance like the major and minor triads. According to Wagner this connection of tones belongs to the characterizing chords. We theorists assign to it as its native place the third degree of the minor scale, on which it is constructed.



By forming its inversions:



we obtain, as under I, a $\frac{6}{3}$ Chord, and as under II, a $\frac{6}{4}$ chord. Their construction is here shown. In its fundamental form this chord has the following resolutions:

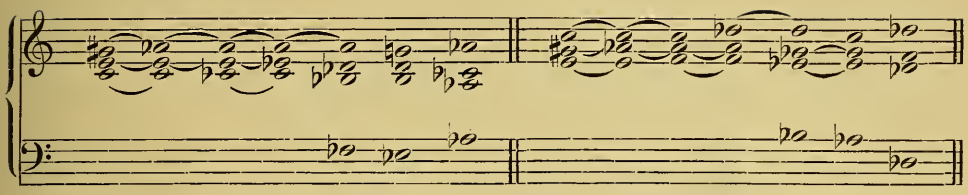


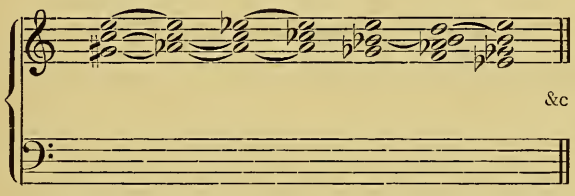
All three tones of the augmented triad possess leading character:

G♯ leads upward enharmonically to Aflat.
E „ „ „ „ Fflat.
C „ „ „ „ Bsharp.
C „ downward to *B*.

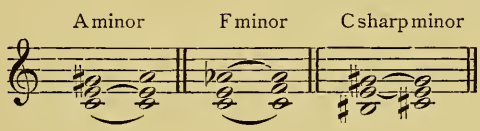
(We will not deal, for the present, with the chords of the sixth and their inversions occurring here.)

A few examples will make this intelligible:



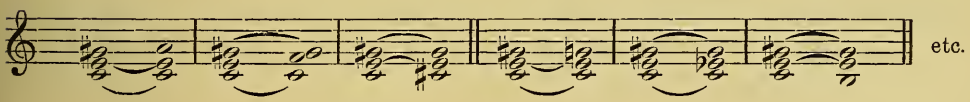


Every augmented triad by sound belongs to three keys and three species:



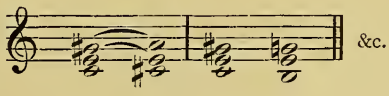
For the resolution of the augmented triad observe the following:

1. Every part of this chord in its fundamental form or inversions can be raised or lowered a semitone:



This example illustrates what has been said above.

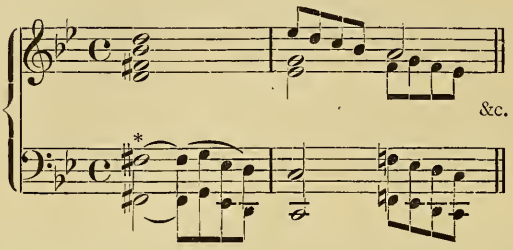
2. The extreme parts can be resolved either in an upward or downward direction.



The same experiment can be made with the inner part and one of the extreme ones.

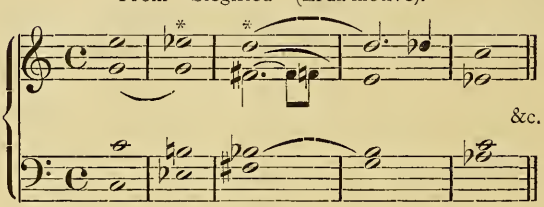
We give a few examples from the works of Richard Wagner:

"Meistersinger".

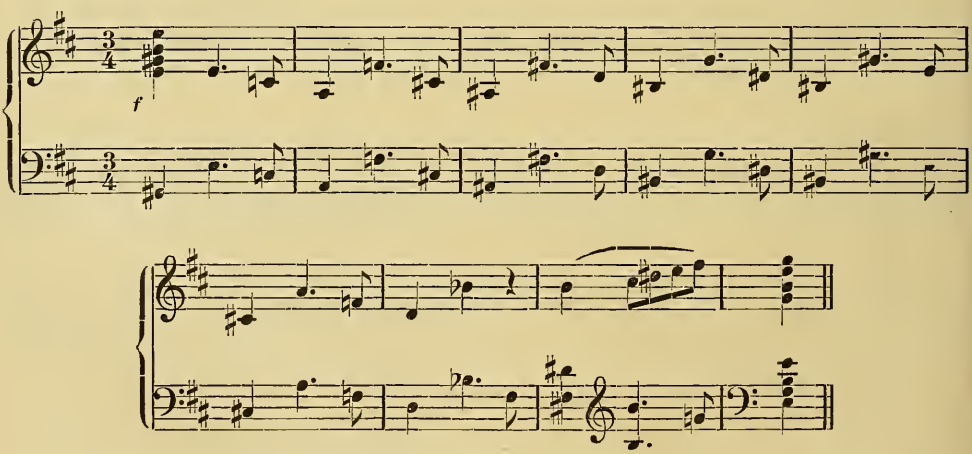


* This is the second inversion of the augmented triad on Bflat.

From "Siegfried" (Erda-motive).

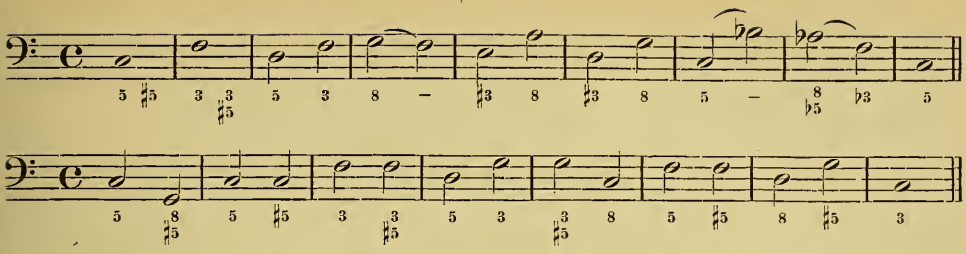


If several augmented triads follow in succession they are seldom used in their original form on account of their shriil, piercing sound. They are employed in a broken manner, as the following example from "Siegfried" illustrates:



We see from these few examples that the augmented triad first lost its evil reputation through Richard Wagner, and has now attained to high honour. Wagner has proved that this harmony, as much as any other, can be artistically used, and its existence in art-work justified.

The pupil should, for the present, deal only with the fundamental or original forms of the diminished and augmented triads.



As exercises take Richter's "Triads of the Minor Scale".

§ 10. The Circle of Fifths.

(Study again what has been previously written on the subject.)

One understands by this the progression of the tones through the twelve perfect fifths of the tempered system of keys:

C—G—D—A—E—B—F♯—C♯—G♯—D♯—A♯—E♯—B♯—.

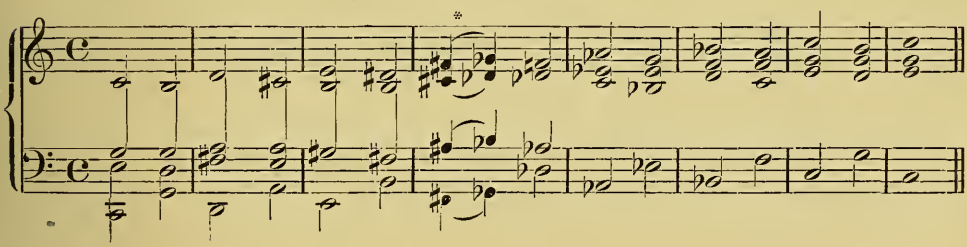
Enharmonically:

C—G—D—A—E—B—F♯—G♭—D♭—A♭—E♭—B♭—F—C—.

On all these tones we can construct triads and connect them with each other, so that, starting from C major and returning to it we make a complete round through the whole system of keys.

One can wander from C major through the whole circle of fifths to the right and the left and back again.

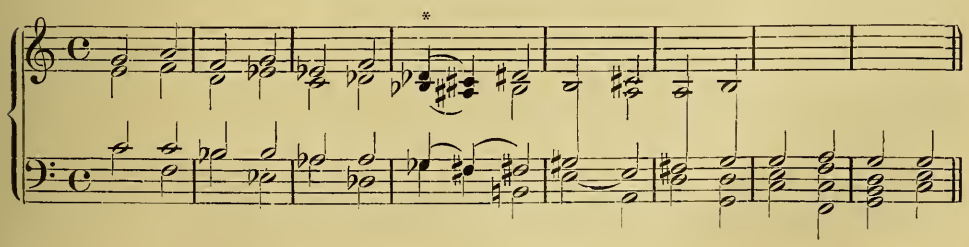
The first course results in the following tone-picture:



This progression is from the side of the upper-dominant, that is, to the right of the circle of fifths.

At * the enharmonic change is made to avoid writing in a sharp key which is difficult and not in use.

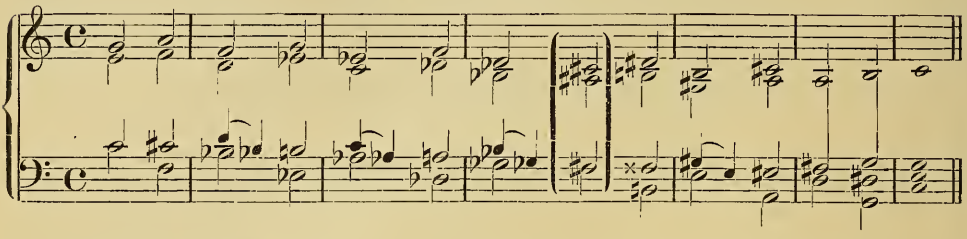
The second course results in the following:



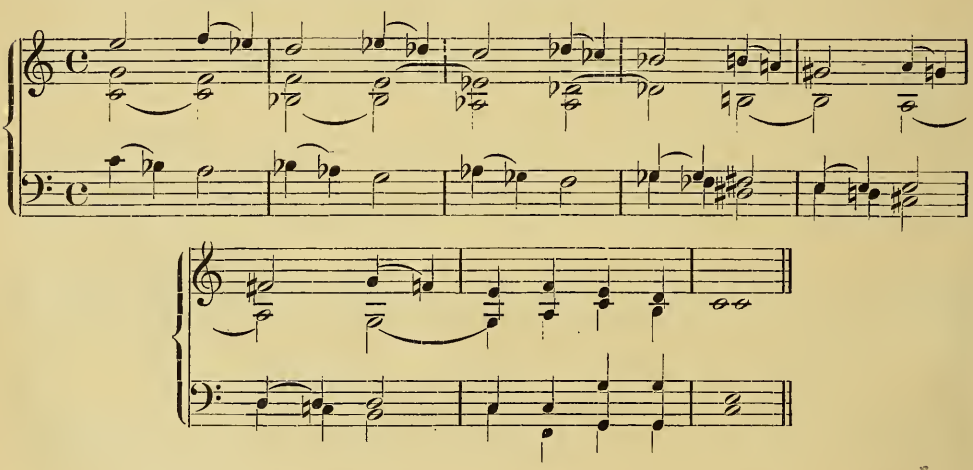
This progression is from the side of the under-dominant, that is, to the left of the circle of fifths.

At * the enharmonic change is made to avoid writing in a flat key which is difficult and not in use.

Augmented Triads in the Circle of Fifths.



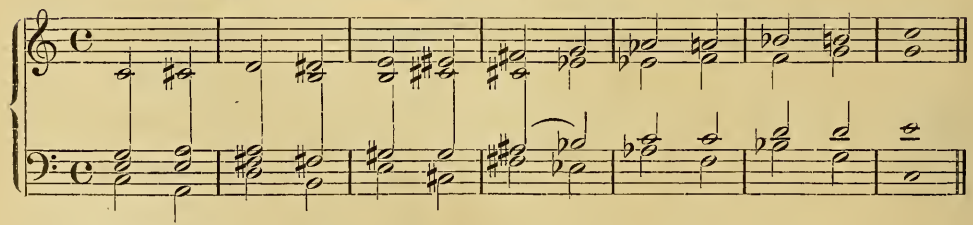
In theory this subject is very important discipline. In practice, on the other hand, it is advisable to be careful in the use of the circle of fifths, especially in a prolonged succession of chords. The following use of the circle of fifths is totally obsolete and ugly:



The pupil should also write progressions through the circle of fifths from other tones than *C*. For instance: *G—D—A flat—E—B—F sharp—G flat—D flat—A flat—E flat—B—F.*

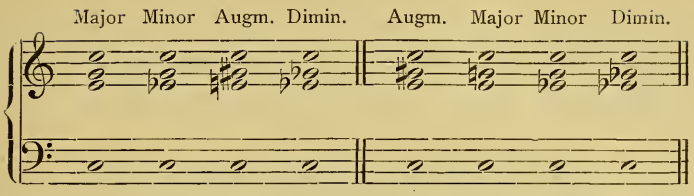
Richter's Exercise Book: Inversions of the triads.

§ 11. Chromatic Connection of Triads.



If we play this example backwards we obtain the chromatic succession of triads downwards. This illustration should be played in all keys.

§ 12. Characteristic Sound of Triads.



In technical lessons the pupil should always be taught the nature of the chords he is playing. (Organ, Harmonium, Piano.)

It is essentially of importance for the training of the ear that the learner should always accurately distinguish the sound-character of the chords.

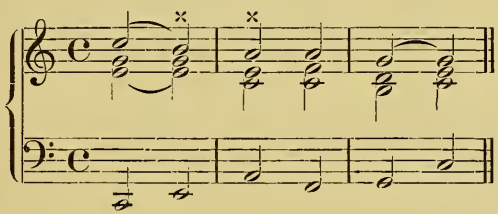
The above exercise can be written from all chromatic tones.

§ 13. Parallel Harmonies (Mediants, Major and Minor).

We have learned that the tonic, dominant, and under-dominant triads are the principal harmonies of every key. Closest related to the principal harmonies are the parallel (secondary) harmonies (mediants). They are found to the right and left of every tone of the principal harmony on the upper and under thirds belonging to the scale.

F a C e G b d.

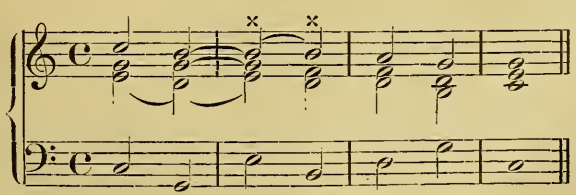
C-e-g is the first principal harmony, consequently its mediants have their position on the tones *A* and *E*.



The triads marked × are parallel harmonies. *E* is the upper-mediant and *A* the under-mediant of *C*.

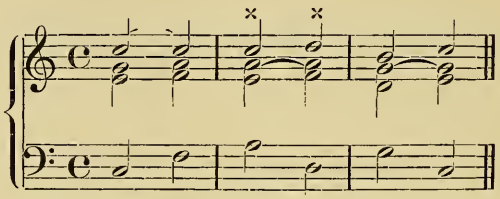
a C e G b d f.

G-b-d is the second principal harmony. Its mediant harmonies have their position on *B* and *E*, and the upper mediant harmony is the diminished triad on *B*.



e G b d F a c.

F-a-c is the third principal harmony. Its two mediants are *A* and *D*, therefore the harmonies built up on these tones in Cmajor are the minor triads on *A* and *D*.



The triad on *A* is upper, the triad on *D* under-mediant. Thus we find in every key three principal and six mediant harmonies.

We have yet to search for the parallel harmonies in the minor.

D f A c E g♯ b.

The first principal harmony is *A-c-e*: its parallels are therefore: the major triad on *F* and the augmented triad on *C*.

f A c E g♯ b d.

The second principal harmony is *E-g♯-b*. According to the above representation the mediant harmonies of the minor dominant are, upwards, the diminished triad on *G♯*, and downwards the augmented triad on *C*.

c E g♯ b d f A.

The third principal harmony is *D-f-a*, and its mediants in the simple minor system are the major triad on *F* and the diminished triad on *B*.

In the chapter on the "Extended Minor System" we shall come back to this subject.

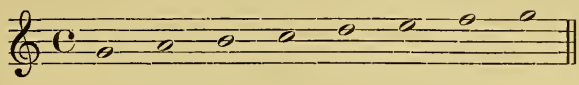
The pupil should now commence to write examples containing principal and secondary harmonies with fundamental chords and their inversions. For this purpose one may choose the most simple church-melodies and the scales for harmonizing. Attempts in composition should go hand in hand with what has been so far taught.

The principal and mediant harmonies of every example contained in this book, together with their sound character, should be accurately designated.

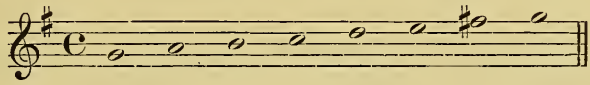
Not until we sum up all the principal and mediant harmonies do we know the harmonic contents of a key.

A key therefore contains triads which are related tonically (through the scale) and do not oppose each other, inasmuch as they are so constructed that no tone foreign to the key occurs, only those tones which lie within the key. For example *F♯ b♭ C♯*, &c. would be foreign to the key of Cmajor. On this account one should distinguish strictly between

the dominant of a key and the dominant key of a key. The series of tones or scale of the dominant in C major is:



There is therefore an *F* on the 7th degree.
The series of tones or scale of the dominant key of *C* is:

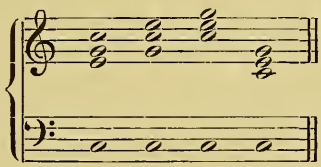


This is G major with *F*♯ as leading tone on the 7th degree.

This has important bearing on the nature of the Imperfect Cadence, also Modulation and the System of the Fugue.

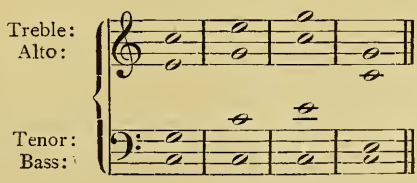
§ 14. Close and Wide Harmonies.

In four part writing we distinguish four different voices: low voice (bass), lower middle voice (tenor), higher middle voice (alto), high voice (treble, soprano, or discant). Now if a harmony be so laid out that not another tone properly belonging to the chord can find place between the three higher voices it is called close harmony. For instance:



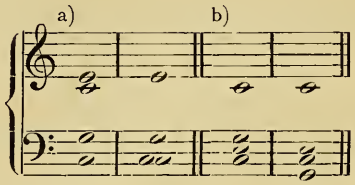
Not another harmonic tone is conceivable between the three higher voices of these triads. This position embodies the idea of "narrow harmony" (close harmony).

Wide harmony is created by placing the higher middle voice an octave lower. Hereunder is the above illustration in wide harmony.



If a natural laying out of parts demand it the tone of the lower middle voice can change places.

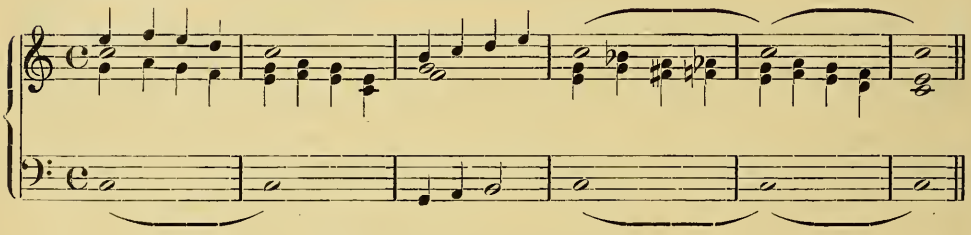
Wide harmony is also called divided or open position. In practice the two positions are mixed, not every harmony being capable of the wide position.



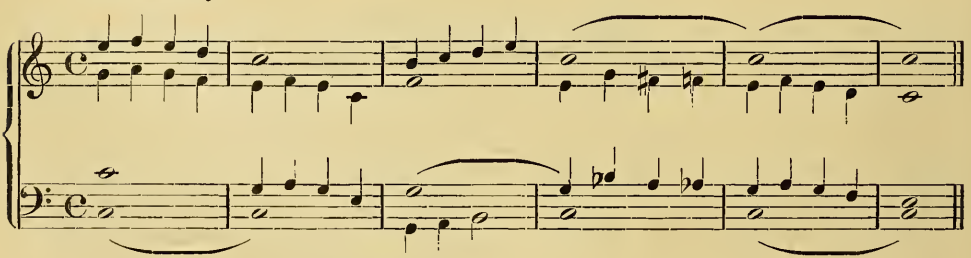
At a) wide harmony is impossible, unless one sacrifice correct four-part writing; at b) another chord would even arise.

The pupil should now commence to write exercises, first in close, and then immediately underneath in wide, harmony. The examples written alternately in close and wide harmony may be combined in proportion to the requirements of both positions.

Close harmony.



Wide harmony.

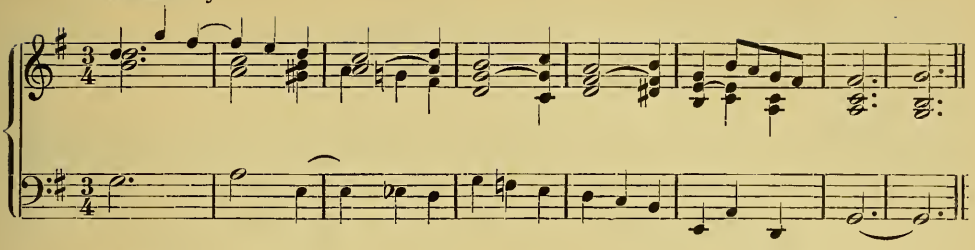


From these basses there are several examples that may be transferred from the close position to the wide.

Here the principal rule to consider is:

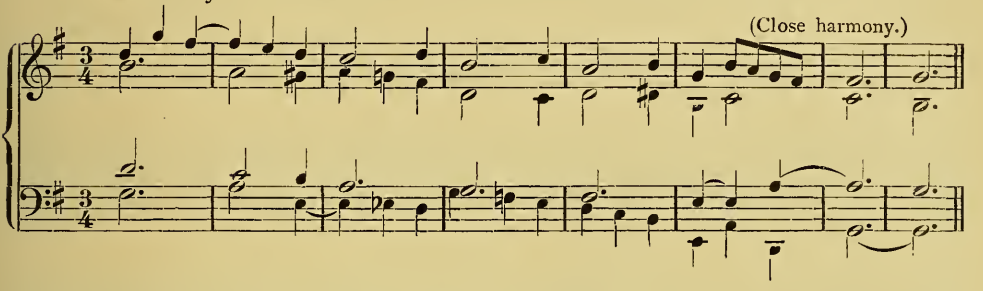
When connecting two triads (or any two chords) it is of the greatest importance that the chords to be connected should possess some tones in common. In this way arise the Ligatures, or Binds, or Ties, or Slurs which are denoted by ⁀ or ‿. These signs mean that the tones remain stationary, that is, they should continue sounding.

Close harmony.



Wide harmony.

(Close harmony.)

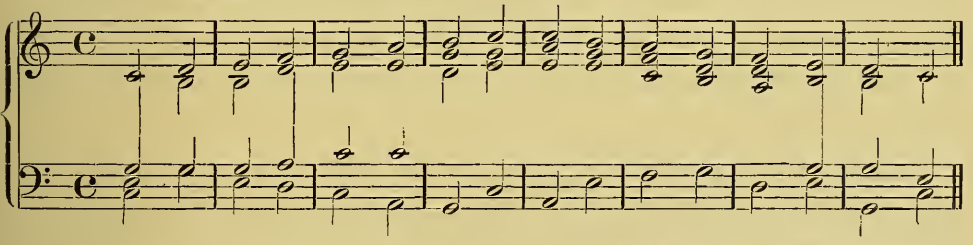


§ 15. Accompanying Scales with the Triads belonging to them.

We call a scale melody, this melody also Cantus firmus. At present it will only be used in the extreme voices — Treble and Bass. Cantus firmus means firm-standing melody.

Accompaniment to the major scale.

Cantus in the treble voice.



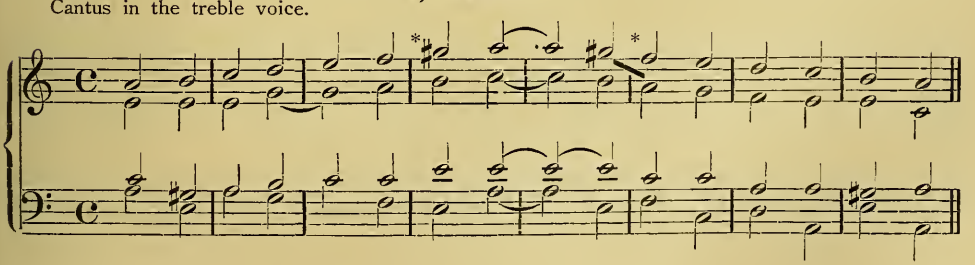
The pupil is to determine the character of these triads and should himself write accompaniments to the scale in different keys with the triads belonging to them.

Accompaniment to the minor scale.

(System of intervals and complete repetition of all intervals.)

a) Harmonic.

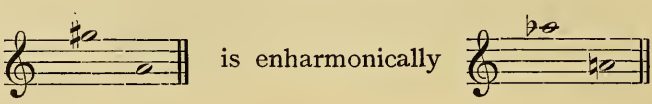
Cantus in the treble voice.



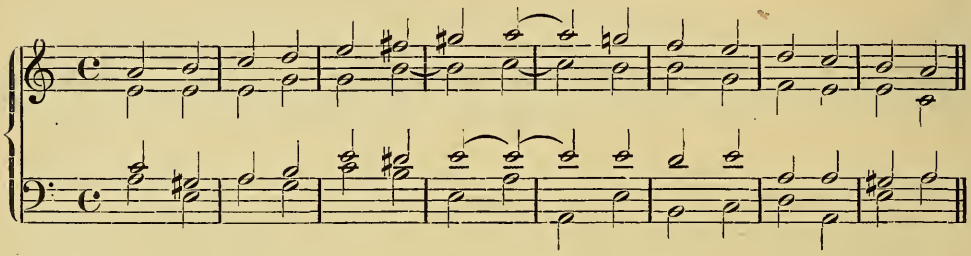
At * the interval of the augmented 2nd forms itself, *and is here permitted*, as it arises from the nature of the scale.

The pupil should write this accompaniment in all minor keys.

At the second * arises a so-called false relation, but it is permissible.



b) Melodic.

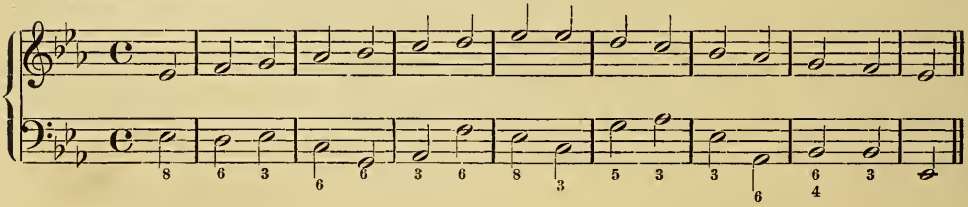


Write this accompaniment in all minor keys. The accompaniment of the scales occurs repeatedly in this book, as it is of great importance to learn to thoroughly master it.

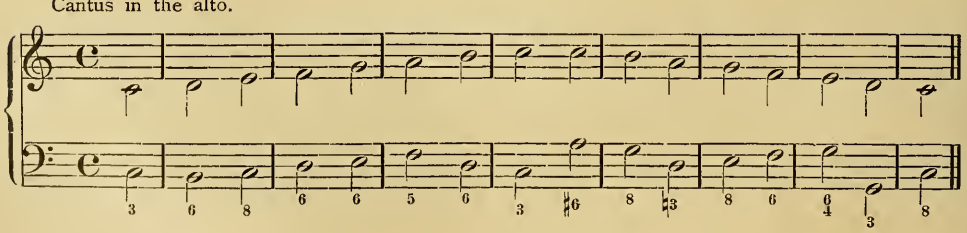
Accompaniments to Scales with Chords of the Sixth (6) *and Six-four* ($\frac{6}{4}$) *and Triads.*

In the following examples the tones required to complete the chords are to be filled in.

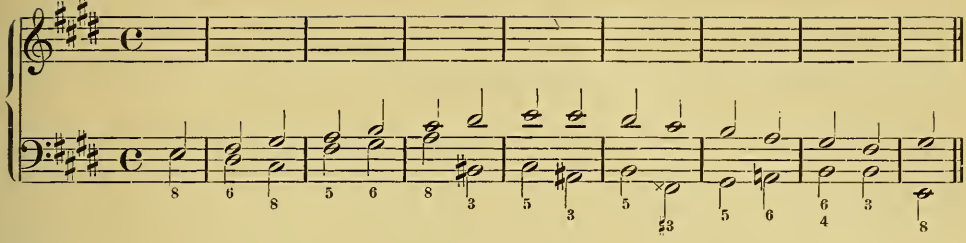
Cantus in the treble.



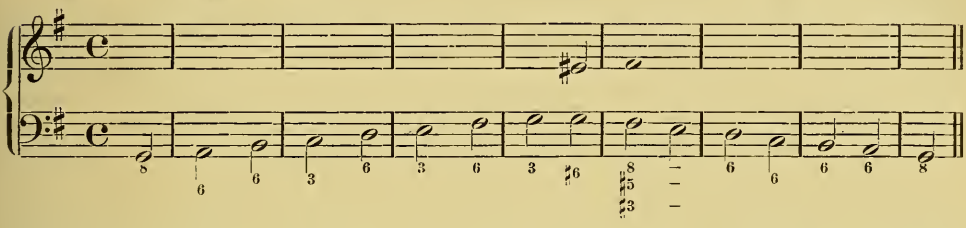
Cantus in the alto.



Cantus in the tenor.



Cantus in the bass.



The pupil should write similar scale accompaniments with the chords with which he is up to now acquainted and play them diligently.

The domain of the triads should not be left until the pupil comprehends everything in it clearly. Every hasty movement revenges itself upon pupil and teacher. Everything in regard to

a) figured examples, and

b) exercises which the pupil figures himself,

must be gone through again.

§ 16. General Bass-Figuring or Thorough Bass.

A treatise on the historical development of general bass figuring would be out of place in this book. One repeats here that which has been already gone through on the subject.

An intimate knowledge of this discipline is absolutely presupposed on the part of professional musicians, wherefore the pupil has to make himself familiar with this part of musical theory. One understands by it a musical writing in which the bass only is notated, the chords standing thereon being denoted by figures. The generally ruling principles on this matter are as under:

The triad is not figured at all unless one wish to designate its various positions. Exempt from this rule are the augmented and diminished major and minor triads. (See these.)

The marks of transposition and resolution are placed by some theorists to the left of the figures and by others to the right.

The first inversion of the triad (chord of the sixth) is figured with the number 6, the second (chord of the six-four) with $\frac{6}{4}$.

As a rule the chord of the seventh is only figured with 7, but here also occur exceptions, which are best shown by the teacher in a practical way and should be repeatedly explained to the pupil in the development

of the separate chords of the seventh. The first inversion of the chord of the 7th is figured $\frac{6}{5}$ the second $\frac{6}{4}$ or $\frac{4}{3}$ and the third 2. An accidental mark of transposition (♯ or ♭) occurring without a figure invariably refers to the third.

The figure 1 denotes either the Prime (fundamental tone) or the fundamental tone in the octave, when the movement (or progression) of the part extends beyond the octave.

Accidental marks of transposition with the ♯ are denoted by a stroke through the figure, thus: a raised sixth 𝄪, a raised third, 𝄪 etc.

The pupil should write out the figured basses without using the piano, and afterwards play what he has written. This is the only and the surest way to train composers to write music without the aid of the piano. By this method the pupil learns to hear what he is writing. It is also the only way to enable the pupil to actually hear music when reading it.

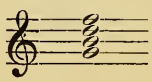
More modern theorists have declared bass-figuring to be superfluous (which is equivalent to pouring away both water and child from the bathing tub) but we stand in the greatest need of it. Other theorists have invented a new general-bass-figuring. Let us keep to the old tried notation; it is simple, sufficing, and — which is the principal thing — clear.

Chapter IV.

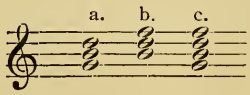
The Chord of the Seventh.

(Figuring 7 or $\frac{7}{5}$).

This is a fundamental (root) chord, and is the outcome, like all these chords, of the systematic building up of thirds. (Construction of thirds.) If we add to the triad another third the chord of the seventh, which consists of two triads, arises. It is consequently a harmony composed of three thirds, one built upon the other, or two triads. Illustration:



From *G* to *B* — from *B* to *D* — from *D* to *F* is always an interval of a third.



Under a we find the major triad, under b the diminished triad, and under c the two are combined and form the chord of the seventh. It can

be constructed on every degree of the major and minor scales, and is a dissonant chord. The seventh is the dissonance. It is an *essential dissonance*, that is, if it be omitted, the character of the chord of the seventh is gone.

The teacher should here make some comments on dissonances in music.

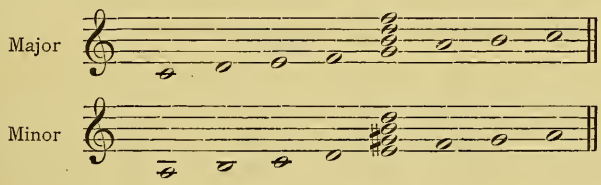
The chord of the seventh is not an independent chord: it invariably requires resolution in another chord. *This resolution need not necessarily take place in a triad.*

For the connection of harmonies the chords of the seventh are of the utmost importance. To trace them we must pursue the same course adopted with the triads.

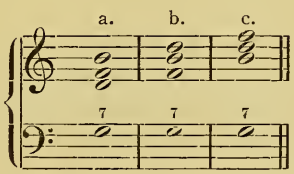
I. Chords of the Seventh in the major System.

1. The most important of them is the chord of the dominant seventh.

It stands in major and minor on the fifth degree and is built up on the dominant triad. It consists of a major third, perfect fifth and minor seventh. Its interval-construction is the same in major and minor.



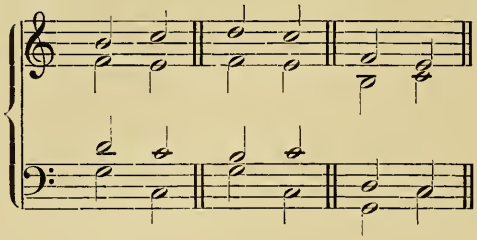
Every interval can be the highest voice, as in the triad, whereby arise the different positions of the chords of the seventh.



At a the third is the highest voice, therefore: third position;
At b the fifth is the highest voice, therefore: fifth position;
At c the seventh is the highest voice, therefore: seventh position.

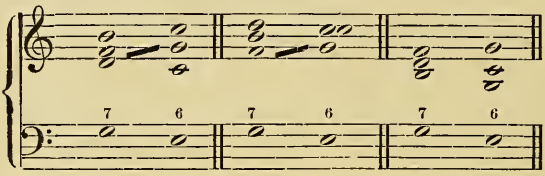
For the present we will deal with the chord of the seventh on the fifth degree, the chord of the dominant seventh in major and minor.

The accepted resolution of the chord of the seventh as hitherto observed is as follows:



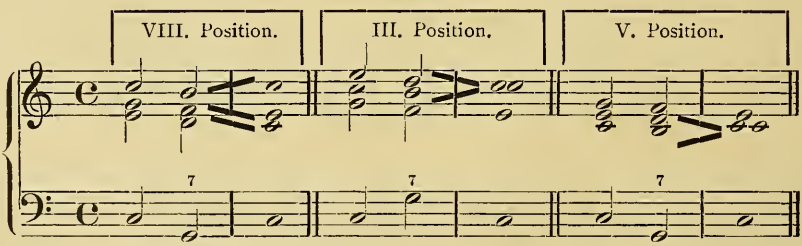
The third resolves upwards, the seventh descends, the fifth descends or ascends, the fundamental tone progresses a perfect fifth downwards or a perfect fourth upwards.

Exception. If the chord of the seventh resolve in the chord of the sixth the seventh ascends. For instance:



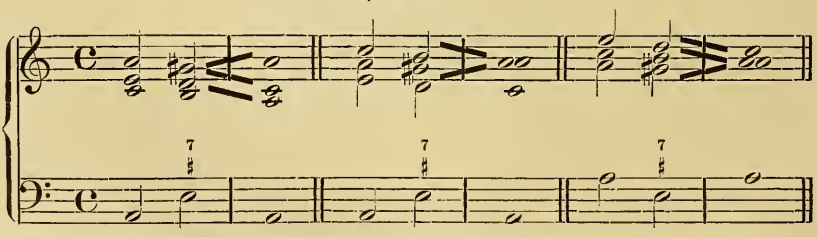
Connection of the Tonic Triad with the Chord of the Dominant Seventh.

a) Major.



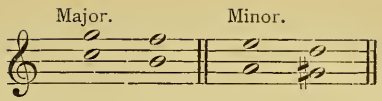
Attention must be paid to the resolutions of the separate intervals. The pupil must write and play this in all major keys.

b) Minor.

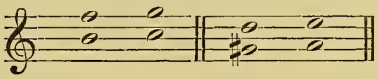


The pupil must write and play this in all minor keys.

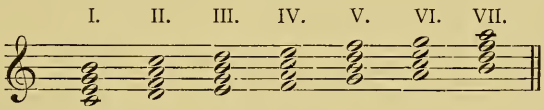
In this connection of chords the interval-step from the perfect to the diminished fifth is formed in the fifth position.



This step is permitted, but not the inversion from the diminished to the perfect fifth.



If we look for the chord of the seventh—analogously with the triads—on every degree of the major and minor scales, the following results are obtained:



Here we see all the chords of the seventh built up on the major scale.

The chord on the fifth degree is known to us already.

We find here chords of the seventh on the

I. degree, consisting of fundamental tone, major 3rd, perfect 5th major 7th;
II. „ „ „ „ „ minor „ „ „ minor „
III. „ „ „ „ „ „ „ „ „ „ „
IV. „ „ „ „ „ major „ „ „ major „
V. „ „ „ „ „ „ „ „ „ minor „
VI. „ „ „ „ „ minor „ „ „ „ „
VII. „ „ „ „ „ „ „ diminished „ „ „

The chords on the I and IV degrees are major chords of the seventh.

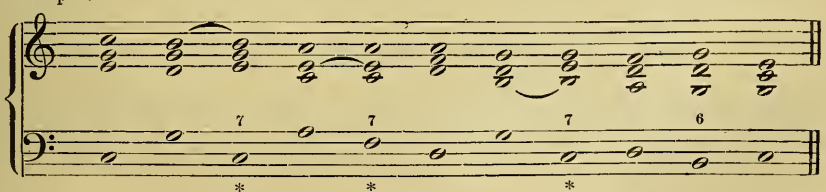
The chords on the II, III and VI degrees are minor chords of the seventh in major.

The chord of the seventh on the fifth degree is called the chord of the dominant seventh. The chord of the seventh on the VII degree in major is called the chord of the diminished seventh.

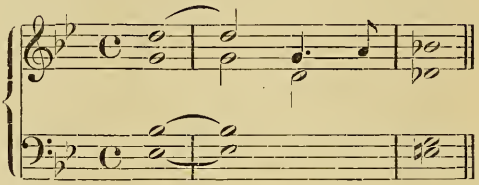
The Major Chord of the Seventh.

The above illustrated major chord of the seventh consists of a major third, a perfect fifth, and a major seventh, and it stands in major on the I. and IV. degrees. The seventh of this harmony is a *perfect dissonance* and requires preparation, that is, it must be contained in the same voice in the preceding chord.

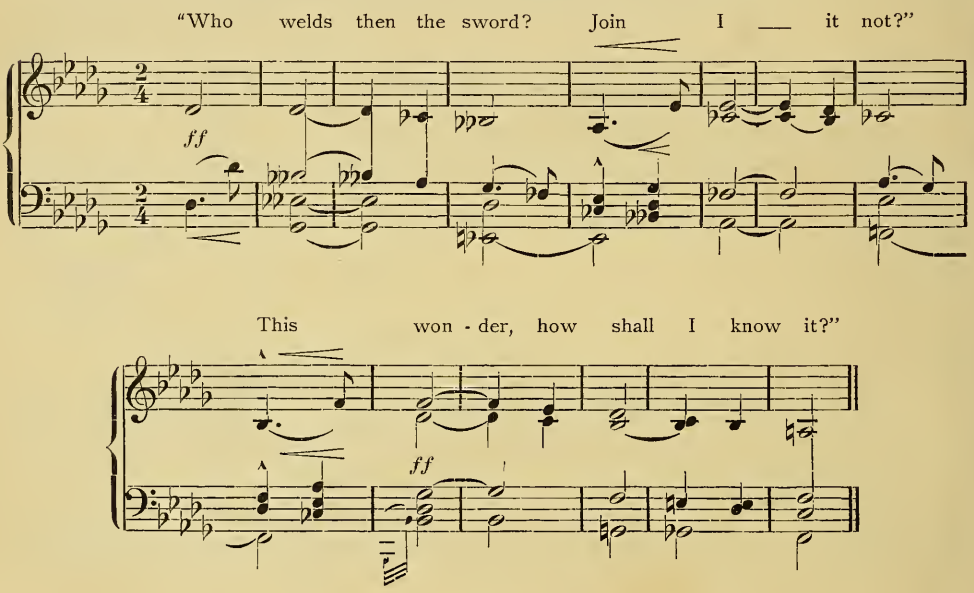
Example:



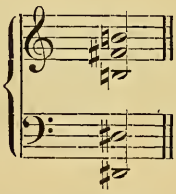
This chord of the seventh has been employed by R. Wagner as an independent harmony in the prelude to the 2nd act of "Tristan", as follows:



The first inversion of this chord is used by Wagner in a most ingenious manner in "Siegfried" as a means of expressing a most impressive cry for help. Mime sings:

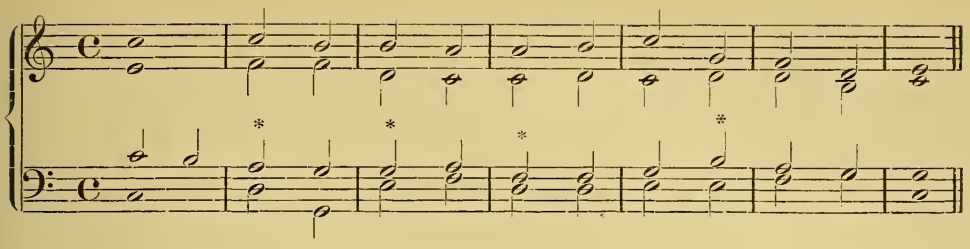


Wagner follows the resolution of the harmony in the last bar but one as under:



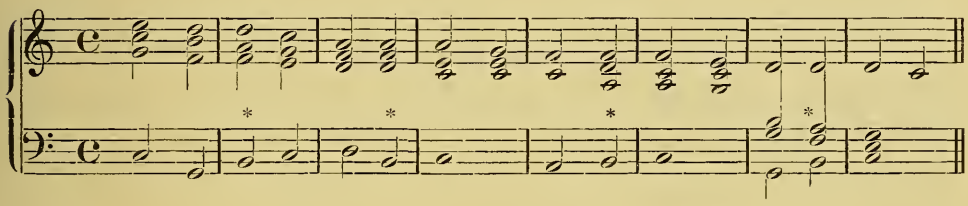
The Minor Chord of the Seventh in Major

is built up on the minor triad with a minor third, perfect fifth, and minor seventh. It stands on the II, III, and VI degrees and its resolutions and inversions are as follows:

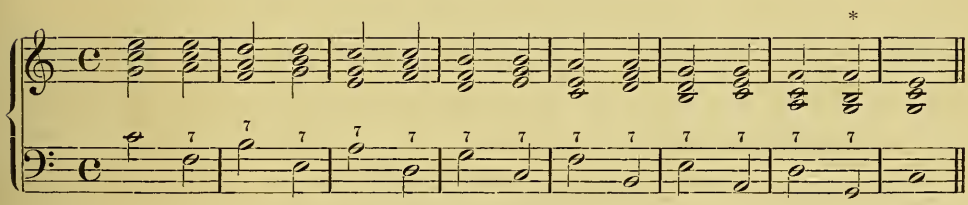


The Chord of the Seventh on the VII degree in Major

consists of a minor third, diminished fifth, and minor seventh. Like the diminished triad, on which it is constructed, it has leading character in the bass.



Connection of the Chords of the Seventh belonging to the Major Scale.

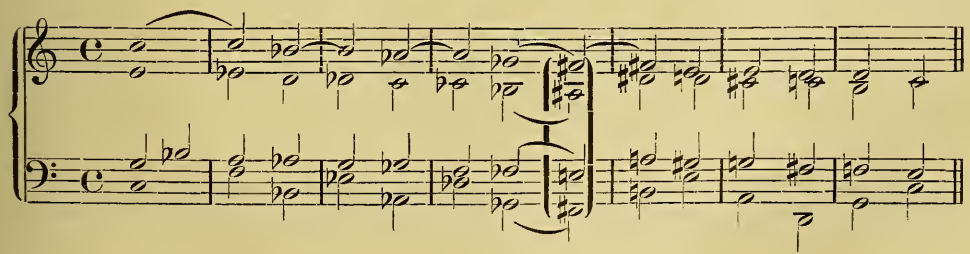


The pupil should play this in all keys and correctly distinguish

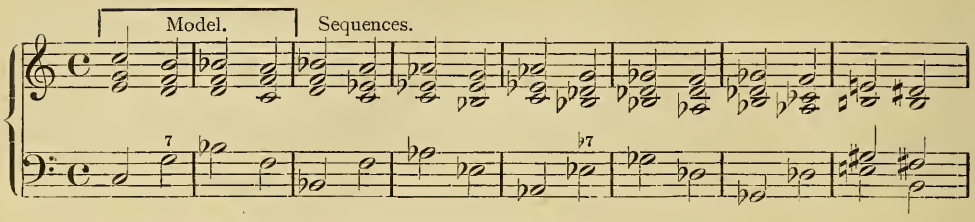
1. The degree on which every one of these chords of the seventh is to be found, in all keys.
2. Their sound-character, after specification of the combination of intervals.

At * the fifth has been omitted in the chord of the seventh. This omission is allowed and is often made at the finish of a composition to obtain the perfect cadence.

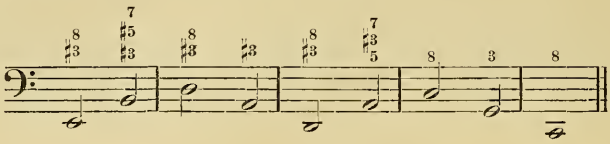
Chords of the Seventh in the Circle of Fifths.



Sequences with Chords of the Seventh and Triads.



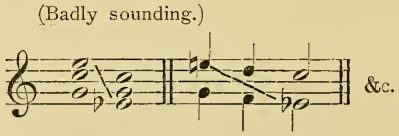
From here the pupil must do the figuring himself.



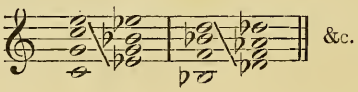
In this example (see model) a false relation arises between the first and second bars, which is, however, permitted, because the *melodic* false relation tone *B* to *B* flat arises chromatically in the chord of a false relation. We distinguish therefore

1. Harmonic false relations, which are forbidden when unpleasant to the ear, for instance:

(Badly sounding.)

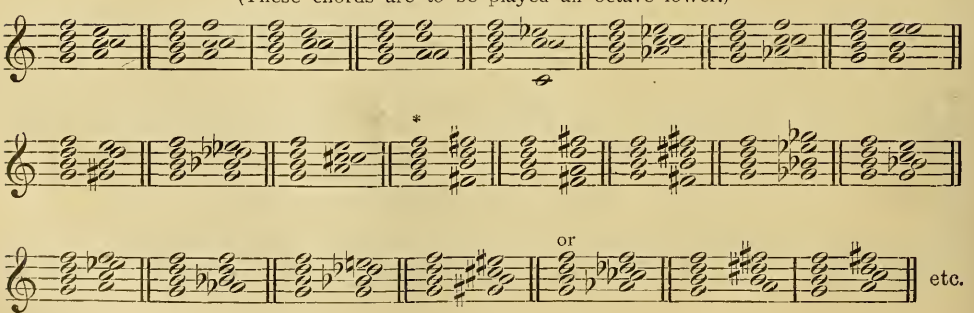


2. Melodic false relations, which are permissible when agreeable to the ear, for instance:



We now know the accepted resolution of the chord of the seventh but have yet to look for the independent progressions of the same. We gain, on doing so, the following connections:

(These chords are to be played an octave lower.)



It has here been already shown that a harmony need not always resolve in a triad. *We understand by the resolution of a harmony the progression of one chord into another.*

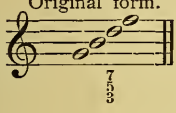
Further information on this subject will follow:

II. Inversion of the Chord of the Seventh.

The inversions of the chord of the seventh are the same as the triads. Every interval of this harmony can be made the bass voice and three inversions arise from this proceeding.

a) The third as bass note:

Original form.

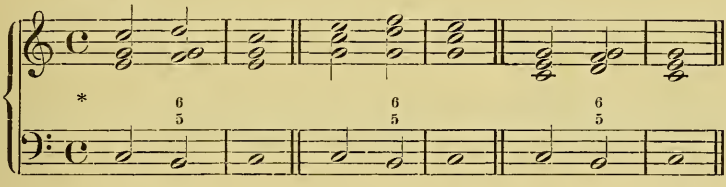


The third made the bass has this result:

By this means we get the first inversion of the chord of the seventh, which is called the chord of the Six-five ($\frac{6}{5}$).

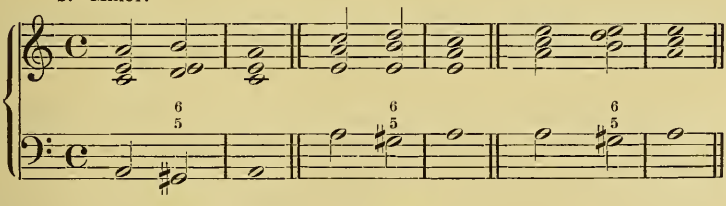
Connection and Resolution of the Chord of the $\frac{6}{5}$ in the Tonic Triad.

a. Major.*)



The pupil should write and play this in all keys.

b. Minor.



The pupil should write and play this in all keys.

The resolution of the single intervals is as follows:

The third descends (original fifth).

The sixth remains stationary (original root).

The fifth descends (original seventh).

---

*) The chord of the $\frac{6}{5}$ has leading character in the bass like the bass tone of the diminished triad.

The chief points now for the pupil are.

1. To attentively note the difference of sound in chords which are *apparently* the same, for instance, the chords of the sixth (6) and six-five ($\frac{6}{5}$).

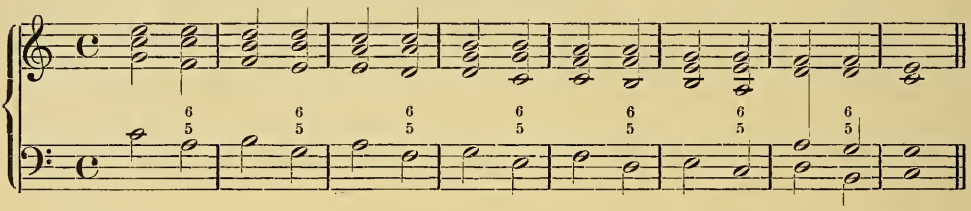
   The characteristic mark of difference between the two chords is the diminished fifth in the chord of the $\frac{6}{5}$:

2. To trace the single intervals of the inversions back to their origin, that is, to their, position in the fundamental chord from which they were derived.

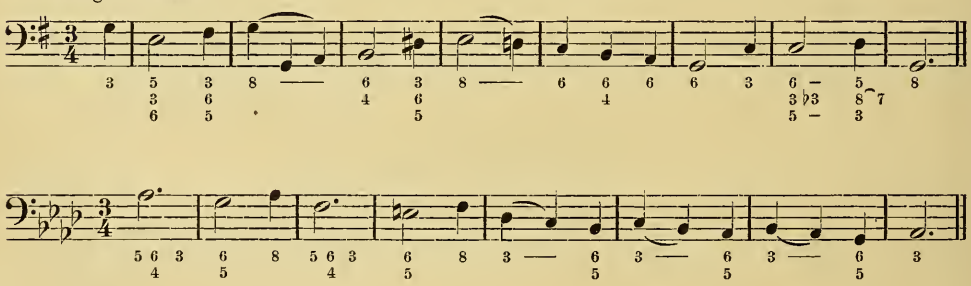
Here the figured basses with chords of the sixth and their sequences should be played again.

Sequences of Chords of the Six-five ($\frac{6}{5}$).

(This example should be figured and played in several keys.)

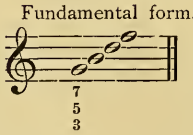


Figured Basses.



b) The fifth as bass note:

Fundamental form.

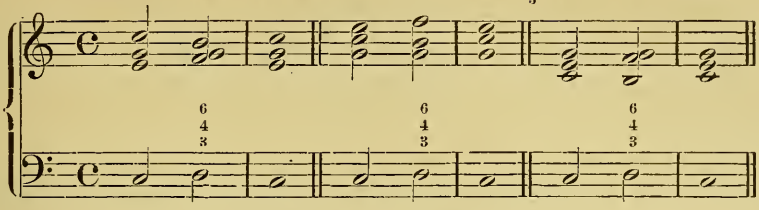


The fifth made the bass has this result:

By this means arises the second inversion of the chord of the seventh, which we call *the chord of the Six-four-three* ($\frac{6}{4}_{3}$) *or, shortly, the chord of the Four-three.*

Its construction should be closely compared with that of the chord of the six-four ($\frac{6}{4}$).

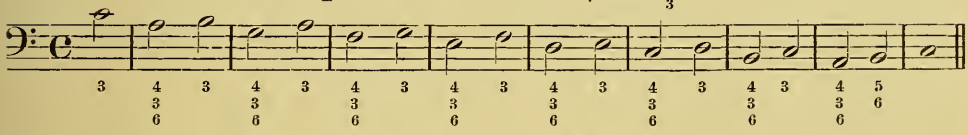
Connection and Resolution of the Chord of the $\frac{6}{4}{}_{3}$ *with the Tonic Triad.*



This should be written and played in all major and minor keys.

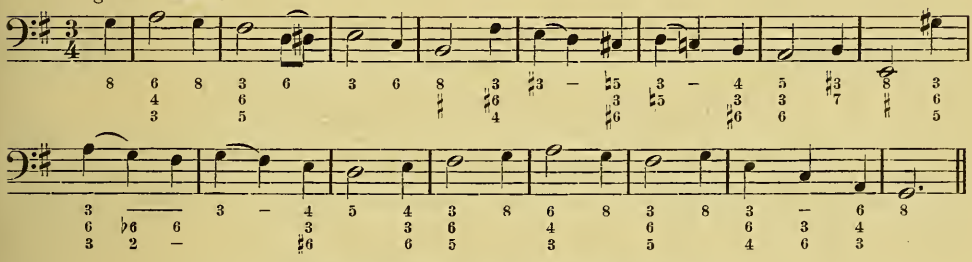
The resolutions of the single intervals are as follows:
The Sixth ascends (original third):
The Fourth remains stationary (original tonic):
The Third descends (original seventh).

Sequences with Chords of the $\frac{6}{4}{}_{3}$.



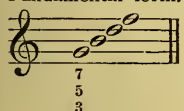
The origin of all these chords of the $\frac{6}{4}{}_{3}$ is to be correctly stated.

Figured Basses.

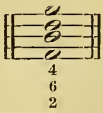


c) The Dominant Seventh as Bass-note.

Fundamental form.



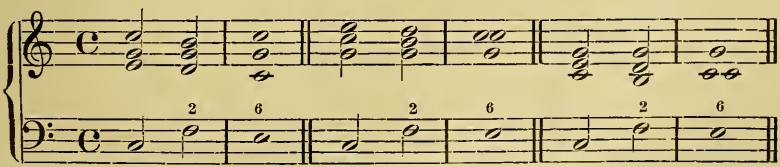
The Seventh made the bass-note, the result is this:



Through this arises the third inversion of the Chord of the Seventh, which is called the Chord of the Four-six-two, or shortly, the Chord of the Second. It is figured $\frac{4}{6}{}_{2}$ or $\frac{4}{2}$ or 2 only,

Connection and Resolution of the Chord of the Second with the Tonic Triad.

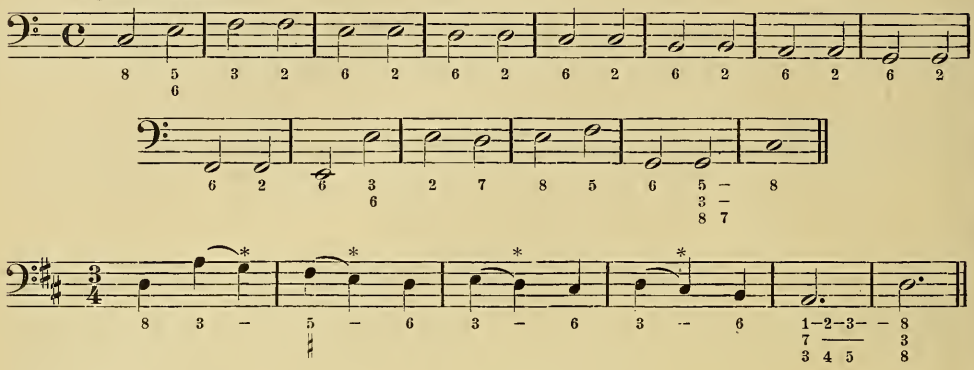
The Chord of the Second resolves in the Chord of the Sixth.



This should be written and played in all major and minor keys.

The resolutions of the single intervals are as follows:
The Fourth ascends (original Third):
The Second remains stationary (original tonic):
The Sixth descends (original fifth).

Figured Basses.



Which chords arise under * and what is their origin?

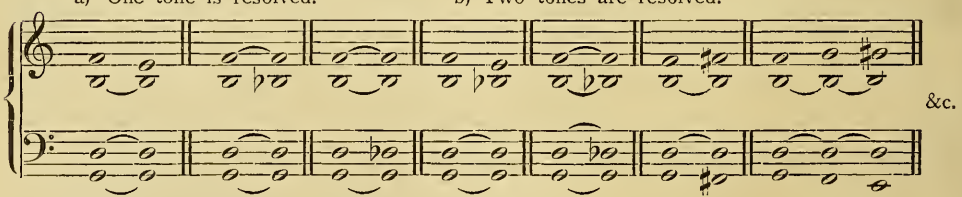
Chapter V.

Independent Resolutions of Chords.

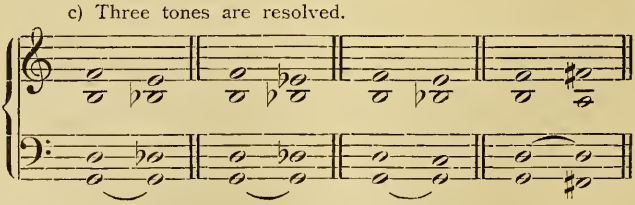
Now that we understand by the resolution of a chord its progression into another (regardless of its being consonant or dissonant) we introduce the following proceeding: Of every harmony we resolve first one tone, then two, then three, and at last the whole harmony.

We give here an example with the Chord of the Dominant Seventh:

a) One tone is resolved. b) Two tones are resolved.

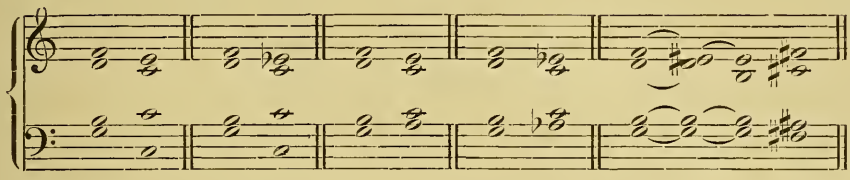


c) Three tones are resolved.



*) See Consonances and Dissonances.

The resolution of these tones leads us to the tonic of C major or minor and to deceptive cadence-harmonies.

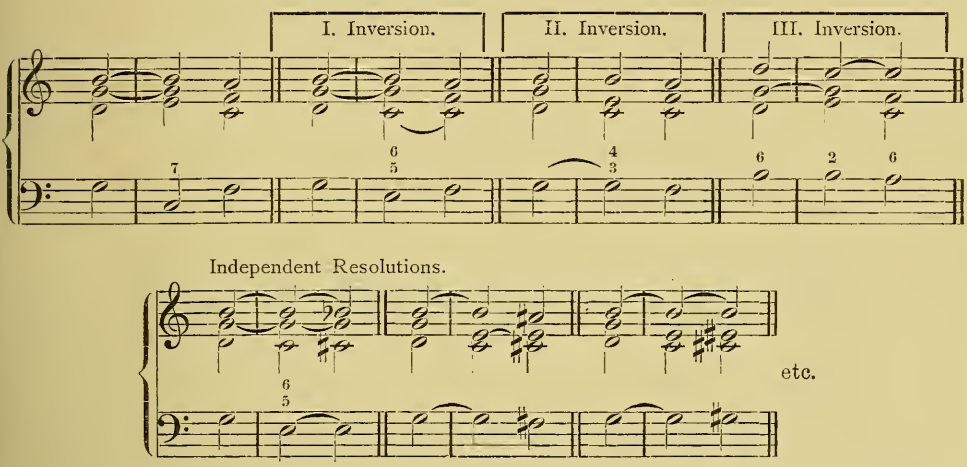


From all this we learn what manifold forms our modern system of harmony takes, not only for theoretical, but also for practical purposes.

Continuation of the Theory of the Chord of the Seventh

(also with Independent Resolutions).

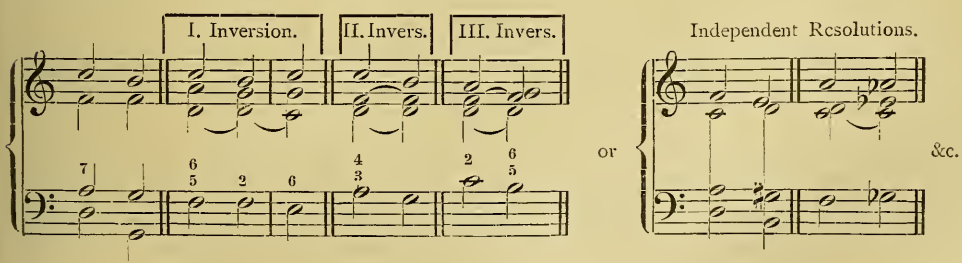
Resolutions and Inversions of the Major Chord of the Seventh in Major.

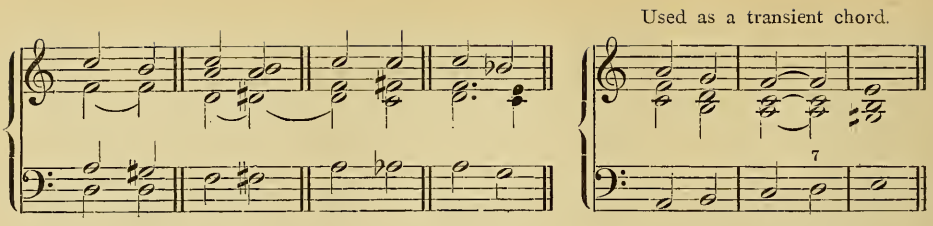


The seventh of this Chord must be prepared, as it is a perfect dissonance.

Resolutions and Inversions of the Minor Chord of the Seventh in Major,

constructed on the minor triad. It stands on the II, III, and VI degrees. Its resolutions and inversions are as follows:

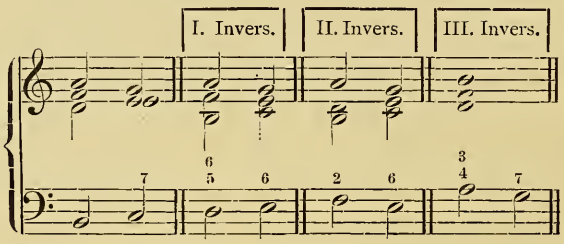




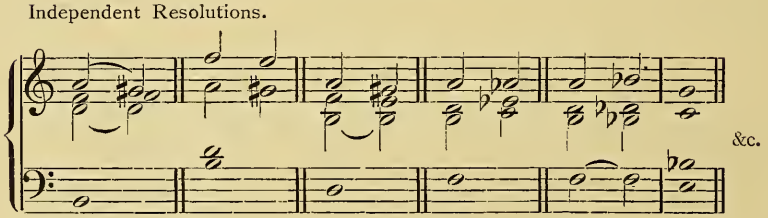
Resolutions and Inversions of the Chord of the Seventh on the VII. degree in Major.

Like the diminished triad, on which it is constructed, this chord has leading character in the bass.

Its resolutions and inversions are as follows:



Independent Resolutions.



The resolutions of the single intervals of every chord can—apparently against all rules—take place freely without violation of the strict rules.

Thus the seventh can remain stationary in the chord of the seventh or it can ascend, or the third may progress downwards, etc.

These are matters which belong to the chapter on "The Formation of Melody".

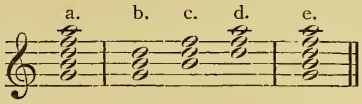
Chapter VI.

The Chord of the Ninth. (Harmony of five tones.)

(Figuring 9.)

If one more third be added to the Chord of the Seventh, the Chord of the Ninth arises. It therefore consists of four thirds — one built on the other — and contains three triads. In no case must this chord be con-

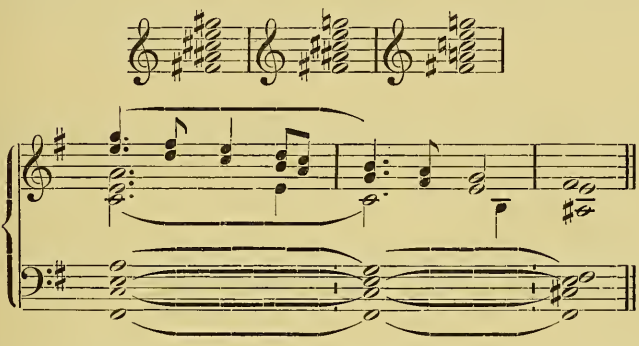
founded with the suspension of the octave in the triad. (Information is necessary on Suspensions.)



a. shows the thirds built one on the other: b. represents the major triad, c. the diminished and d. the minor triad. Under e. these triads are combined and form the Chord of the Ninth.

We distinguish three kinds of Chords of the Ninth, namely:

1. The major Chord of the Ninth. 2. The minor Chord of the Ninth. 3. The diminished Chord of the Ninth.



It is not a proper fundamental chord, inasmuch as it has no inversions, and especially is the one wanting in which the ninth would be the bass note. In four-part writing the fifth of this harmony must always be left out.

This chord is best used in its fundamental form in orchestral music and in five part vocal writing. Richard Wagner commences the prelude to the II act of the "Meistersinger" with the chord of the ninth on *D* in Gmajor.

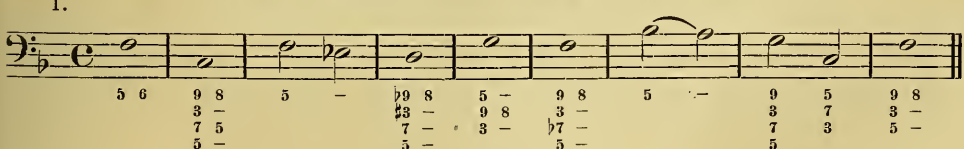
Robert Schumann places the minor chord of the ninth on *G* at the head of his overture to "Genoveva".

In most cases the ninth occurs as a suspension of the octave in the chord of the seventh or in the triad. In its fundamental form the existence of the chord of the ninth (as an independent chord) has its justification in the system of harmony.

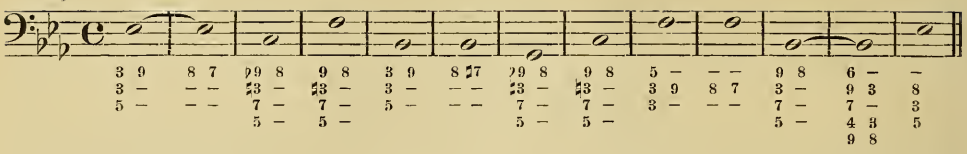
(Further information on suspensions of the octave in the triad will be given in the chapter on "Suspensions" and the appendix to the Chord of the Ninth.)

Figured Examples with Chords of the Ninth.

1.

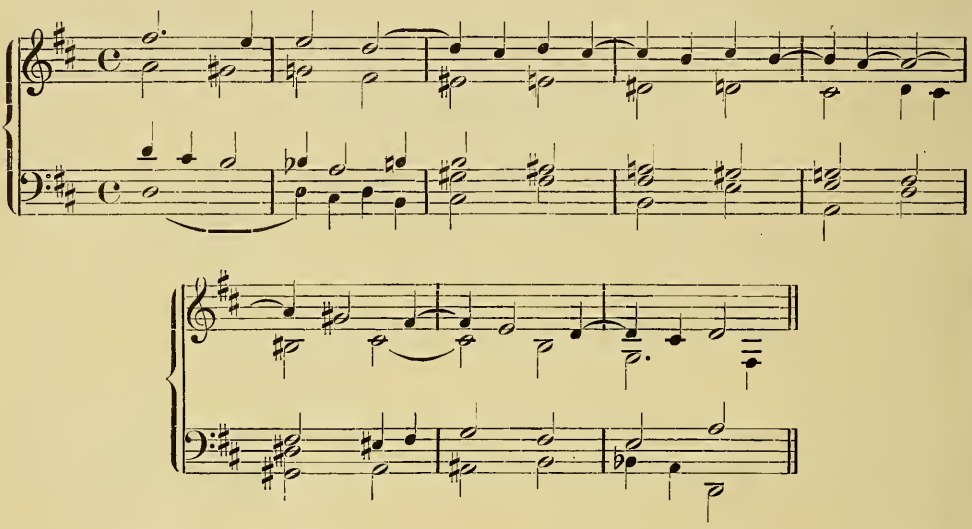


2.

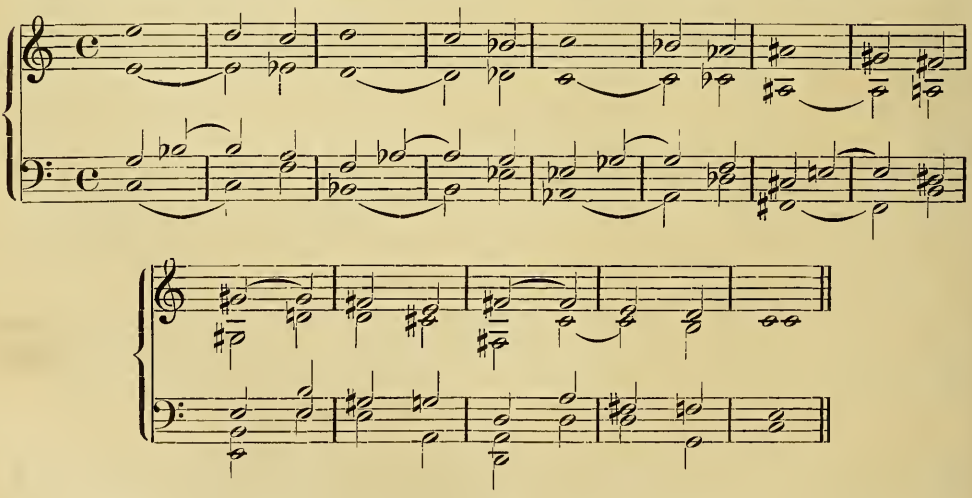


The foregoing examples should be so distributed for treble, alto, and two basses that, by an exchange of the two bass parts, the fifths occurring by skip movement disappear.

The following example is to be figured:



Triads, Chords of the Seventh and Chords of the Ninth in the Circle of Fifths.



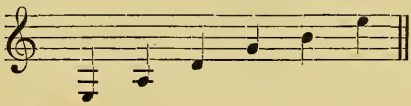
Wagner frequently uses the Chord of the Ninth in the "Nibelungen".

Chapter VII.

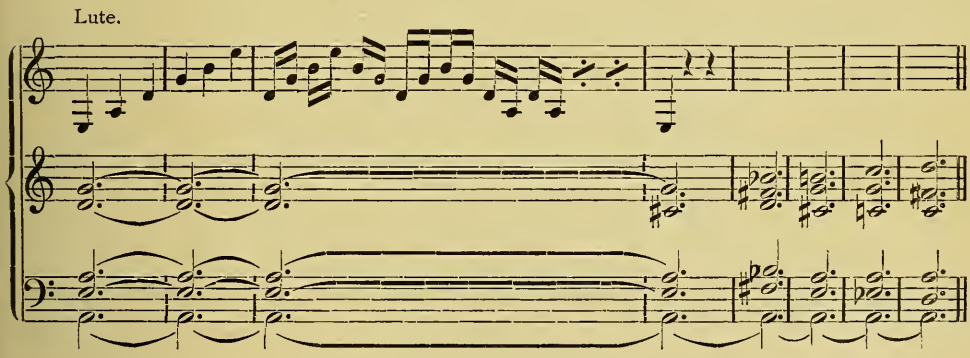
Unusual Chord-Formations.

The greatest harmonist of modern times is undoubtedly Richard Wagner. He has introduced great theoretical problems: and to elucidate them, in the interest of all who desire to become acquainted with modern music, shall be my aim.

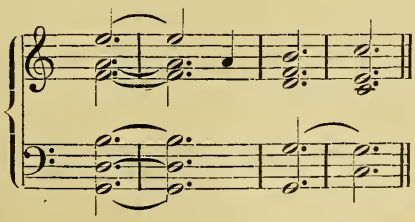
"One learns always by examples only" says Wagner himself. In "Die Meistersinger" he forms a Chord which corresponds exactly with the stringing of the guitar, namely:



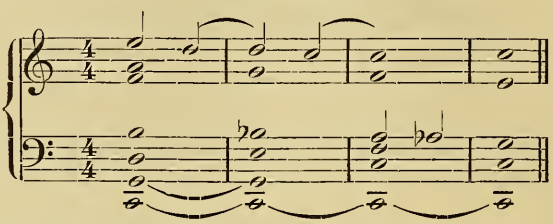
This chord, which is conditioned and justified by the situation, is a characterizing chord. Beckmesser appears with a lute to sing a serenade. Wagner uses as temperamental groundwork in this scene the harmony arising from the simultaneous striking of the lute-strings in a really wonderful way. If we admire the ingenuity of Wagner in making use of such a chord at all still more must we marvel at its orchestral harmony-equipment and development.



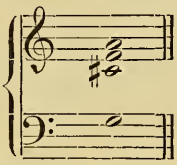
I find another six-part harmony in the "Meistersinger" which must be termed highly interesting. It is in the third act, in the chorus "Auf der Wiese" ("In the meadow"):



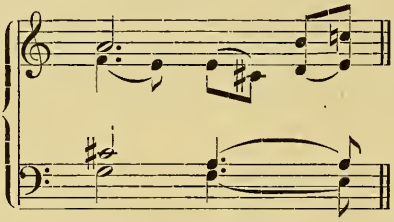
If we imagine to the first chord the addition of the Organ point-note *C* we have a harmony which represents all the tones of the diatonic scale.



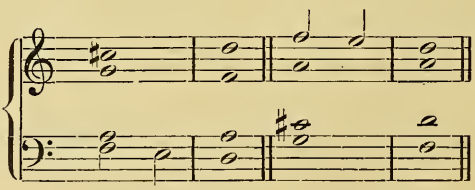
Wagner forms a chord in the "Meistersinger"



which is nothing but the chord of a suspension, since the sixth is suspended by the *F*. He resolves the chord thus:

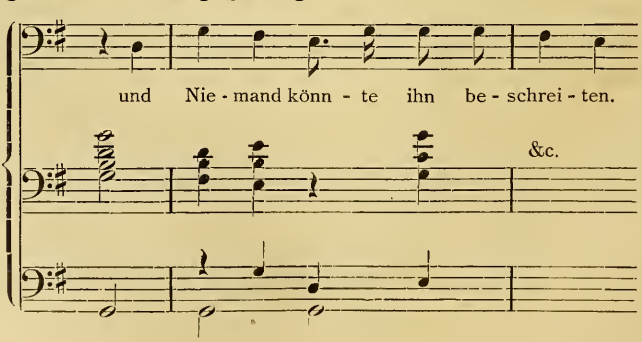


In another form and inversion it often appears thus:



The point in the matter is a suspension of the sixth in the Chord of the Second.

To the most interesting successions of tones in melodic and harmonic regard belongs the following passage from "Parsifal":

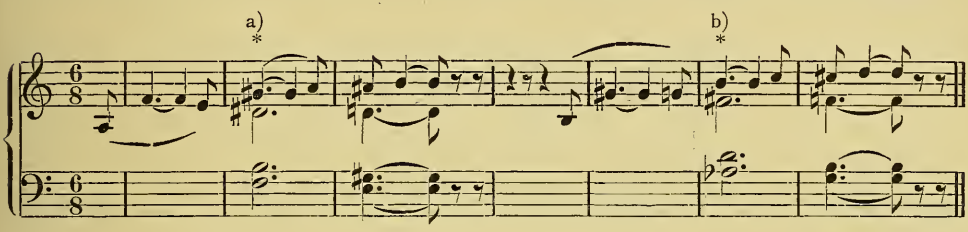


Here the singer, going entirely his own way, sings in seconds with the orchestra.

$$\left(\begin{matrix} g \\ f\,sharp \end{matrix}\right) \left(\begin{matrix} f\,sharp \\ e \end{matrix}\right) \left(\begin{matrix} e \\ d \end{matrix}\right)$$

In the organ compositions of J. S. Bach similar passages occur, the bass and treble moving in sevenths. These passages also produce not unpleasing effects, and are only noticeable when read.

The harmony at the commencement of "Tristan" belongs to the most interesting examples in this domain.



The chord arising at a* is, according to the old theory, no chord et all, inasmuch as there is no key which contains F as well as D sharp. The same holds good at b,* there being no key in existence which contains A flat and F sharp in its scale.

But we modern theorists calculate the first harmony to belong to A minor, the second to C minor. We obtain these chords in these keys through the Extension of the Minor-system (see this) to the side of the upper-dominant.

We cannot any longer get away from these occurrences by simply saying "This is an altered chord" — we must really give these things a family name. We judge such connections of tones not by their orthography alone, but by their sound-character.

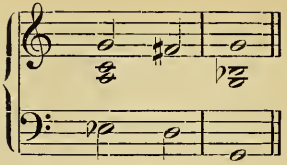
It has been much disputed whether these so-called tone-connections be real chords. They are real chords, because, if we alter the orthographical writing in *A* we obtain *F*, C flat, E flat, A flat, a connection we find in E flat minor or in G flat major.

We would have to deal with an extraordinary subtilty of musical orthography if the new theory had not resolved the problem for us; for, according to the old view, a simple modulation lies before us. The whole character of the first three bars suggests the key of A minor. Consequently Wagner himself has practically solved the question.

In the chapter on interesting harmonies we distinguished two kinds:

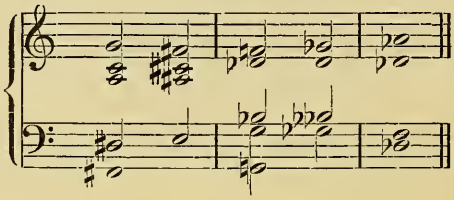
1. those *accidentally* created in absolute music;

2. those character-expressing chords occurring in music-drama, song, and all kinds of music dependent on a text, therefore chords created by poetical influences.



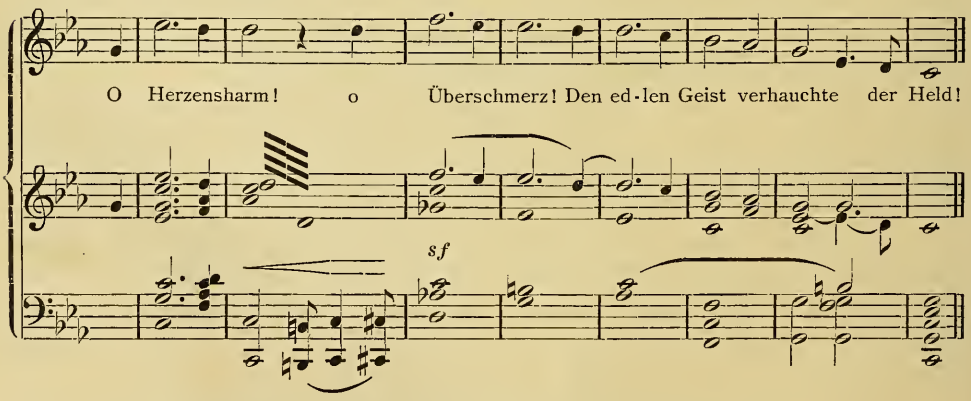
If we look at the first chord and its progressions we shall see that it is used in every household book of preludes and known in every singing-club.

Wagner, adding to this formation the organ point Fsharp, and altering E flat enharmonically to D sharp, reaches the following resolutions:



This chord occurs frequently in the "Götterdämmerung". But its most wonderful effect is attained in the music expressive of the mourning for Siegfried's death. (Trauermusik zu Siegfried's Tode). There lies an unspeakable feeling of grief in this tone-combination. What the poet is unable to express here, the music, by its characteristic grip, accomplishes to the highest degree attainable.

I must here bring to mind another German work in which the words: "Oh, grief of heart! oh, more than pain! His noble soul the hero outbreathed!" are characterized.



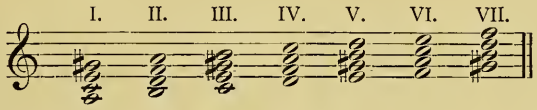
Harmonies such as we find at the words "more than pain" do not arise accidentally, they are created by the poetical influence, by the necessity of the situation. If the search for such characterizing chords be very difficult, their natural, inartificial resolution is still more difficult. Young

composers can perceive therefrom what high demands are now made from the harmonist.

(The pupil must pay strict attention in the harmonic sense to *what* he plays, and the teacher should point out to him what is of special importance.)

Chapter VIII.

Chords of the Seventh in the Simple Minor System.



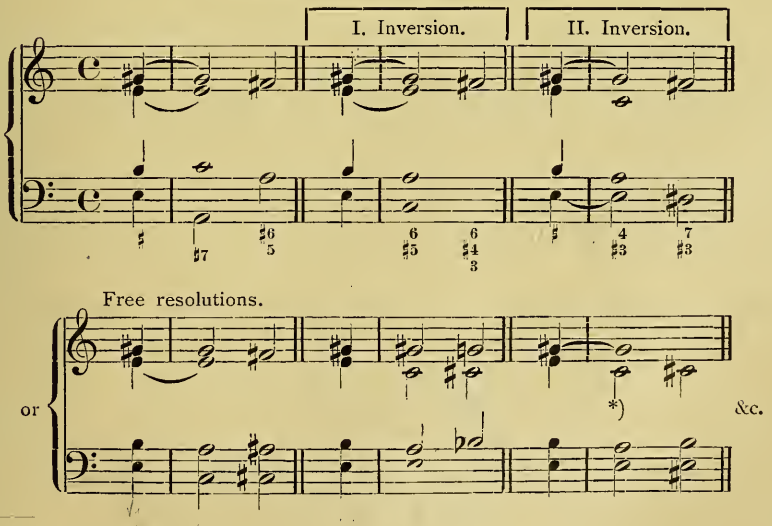
On close examination we find that of this succession of chords of the seventh, several are known to us, for instance, the chord of the dominant seventh on the fifth degree, the harmony of four tones on the second degree, and the chords of the seventh constructed on the fourth and sixth degrees. Consequently we need not treat of these here any further.

1. The Major Chord of the Seventh in Minor.

It stands on the first degree in minor and consists of a minor third, perfect fifth, major seventh, and is the most dissonant chord. It never appears alone, but always in connection with other harmonies.

D f A c E g♯ b.

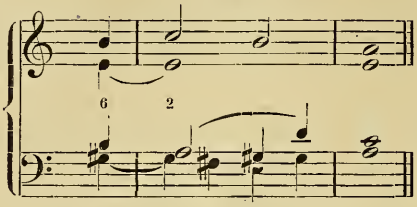
Its resolutions and inversions.



*) "Tannhäuser": Venusberg.

The third inversion sounds hard and is not used in vocal-music.

III. Inversion.



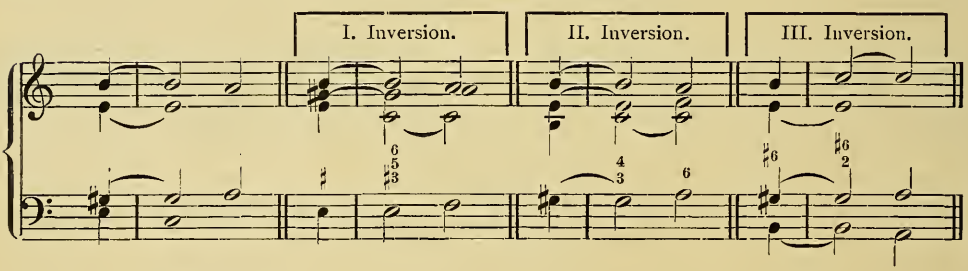
In orchestral compositions this dissonance can be very effective under certain circumstances.

2. The Augmented Chord of the Seventh in Minor.

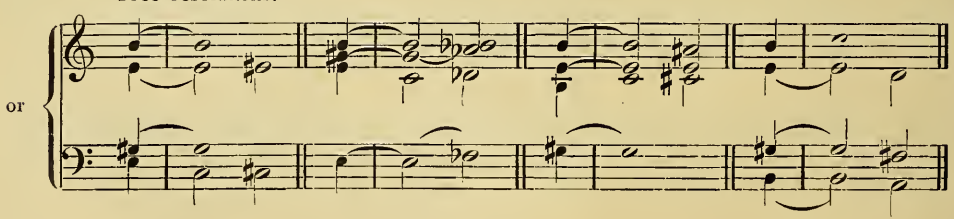
is so called, because it is constructed on the augmented triad. It consists of a major third, augmented fifth and major seventh. We find it on the third degree in minor.

D f A c E g♯ b

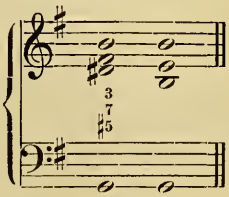
Its inversions and resolutions.



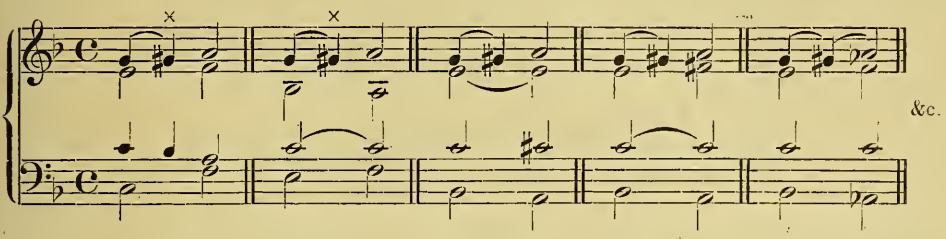
Free resolutions.



Schumann uses it thus in "The Paradise and the Peri":



In practice the chord appears frequently as a transient chord, for instance:

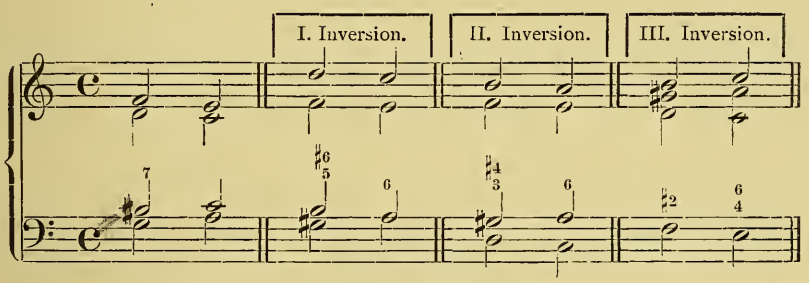


3. The Chord of the Seventh on the Seventh degree in Minor (Double Diminished Chord of the Seventh)

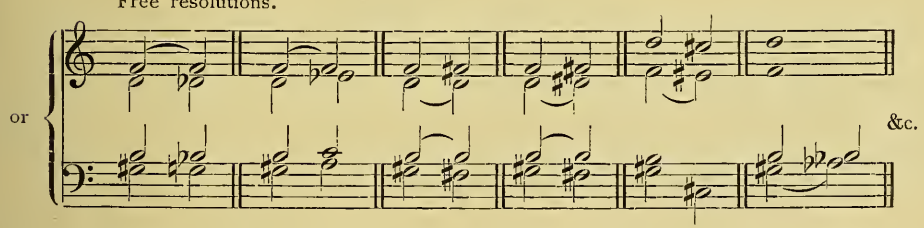
constructed with minor third, diminished fifth and diminished seventh has leading character in the bass, is the least dissonant sounding harmony of four tones, and plays a great part in dramatic music.

Its resolutions and inversions.

A c E g♯ b D f.

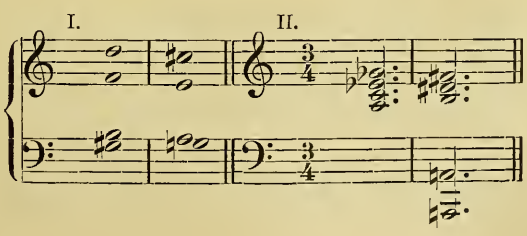


Free resolutions.

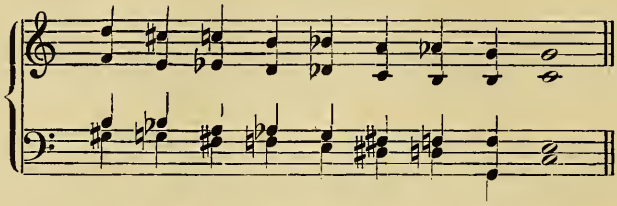


This chord of the seventh is very suitable for the purposes of modulation, especially on account of the ambiguity of its single intervals.

Beethoven resolves this harmony in "Fidelio" as follows:

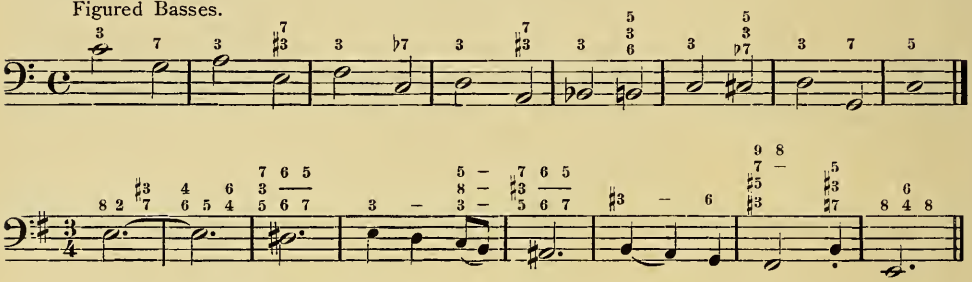


In modern music several such chords often follow directly one upon the other.



The pupil should analyse the first prelude in Bach's Wohltemperiertes Clavier (1 vol.) in C major, in which occur the majority of the chords of the seventh known up to now.

Figured Basses.



The pupil should use the scales as Cantus firmus in all parts and accompany them with all the chords with which he is now acquainted.

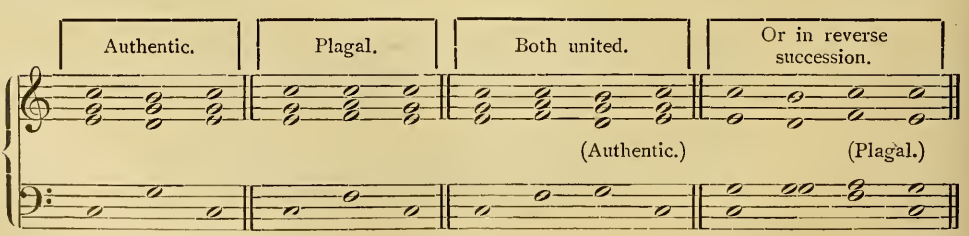
Chapter IX.

Cadences (Finals).

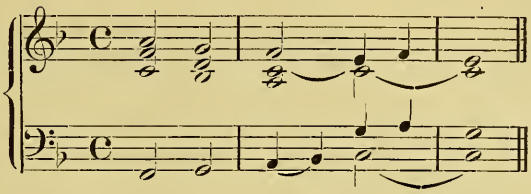
By cadence one understands the conclusion of a composition or the fixed termination of a portion of the same. It is a pause of rest. The most simple kind of cadence we obtain through the connection of the tonic with the under- and upper-dominant triads.

We distinguish

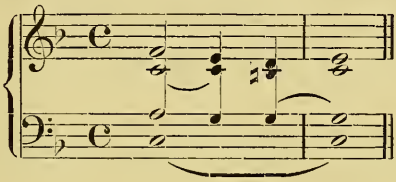
1. Full Cadence (Full Close) to which belong the Authentic and Plagal cadences. The former is the cadence obtained through the dominant and the latter through the under-dominant. The plagal cadence is also called church-cadence. Not seldom we find both united.



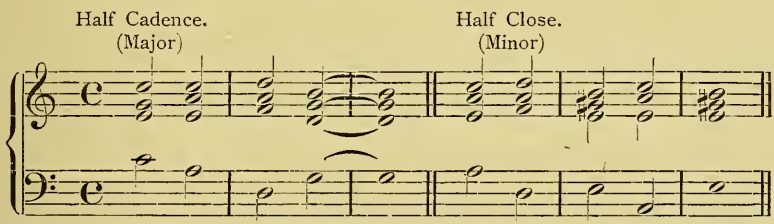
2. Imperfect Cadences, which stand on the dominant, and imperatively demand the continuation of the composition.



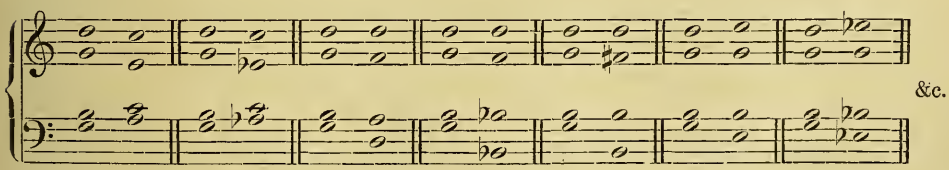
It must be remarked here, that the imperfect cadence should not stand in the key of the dominant, this would be modulation. Therefore according to the above example, a *B* is absolutely to be avoided. Through the existence of the tone *B*, the imperfect cadence would lose its character.



Here the cadence is, indeed on *C*, but on *C* as tonic, for *B* has not led us to the dominant on *C* in *F*, but to the tonic on *C*. This is not in accordance with the nature of the imperfect cadence.



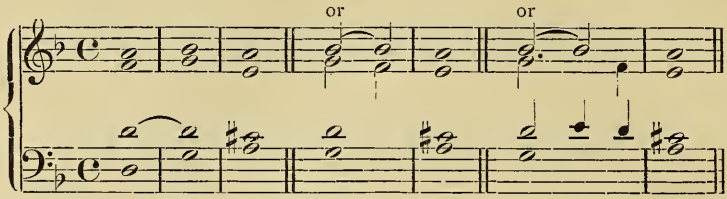
3. Deceptive Cadences. If the bass in the dominant triad or dominant chord of the seventh move to a tone other than that of the tonic, a deceptive progression arises. It is also an unexpected resolution of dominant harmony. The deceptive progressions are of great importance for the chapter on Modulation.



The pupil should write and play these cadences in all dominant harmonies and search for new deceptive progressions to them.

Music gains new and very important means of expressions through deceptive progressions.– Richter: Deceptive Cadences.

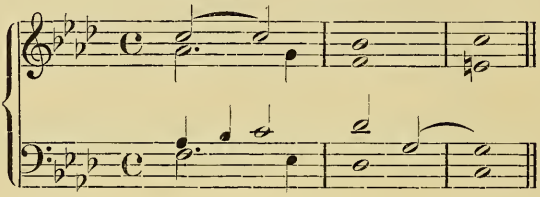
4. The Phrygian Cadence. It progresses from the fourth to the fifth degree and occurs only in the minor.



It is principally used in church music. This cadence is the most used form of the imperfect cadence in the minor, likewise

5. The Pure Dorian Cadence.

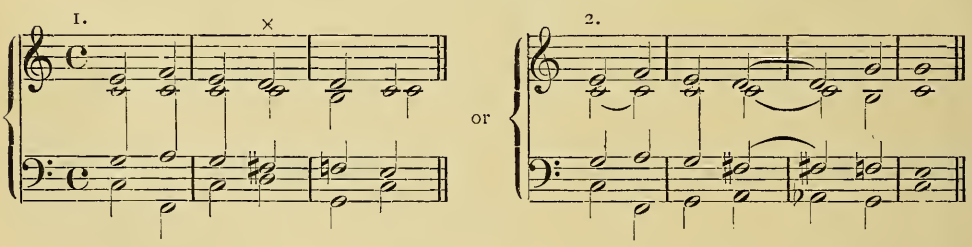
From "The Messiah" by Händel.



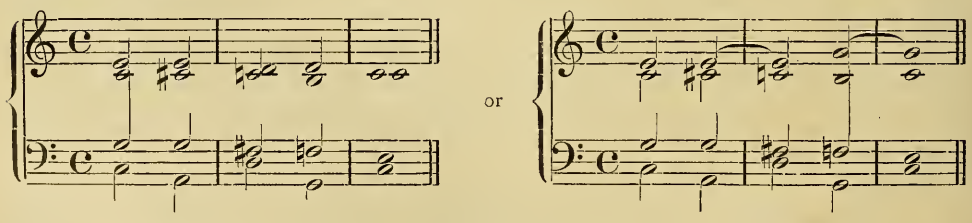
6. The Cadence without the third in the triad, chiefly used in ancient church modes by the old masters.

7. If a composition finish in the octave-position it is called the *Perfect Cadence.* The cadence without the third, the cadences in the third or fifth positions we call *Imperfect Cadences.*

8. The Cadence through the Dominant of the Dominant.

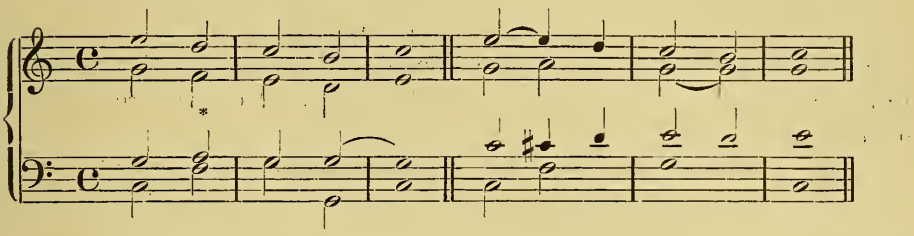


9. In our modern music there also appear cadences which extend beyond the third dominant, *this is the cadence through the upper-mediant with the major third.*



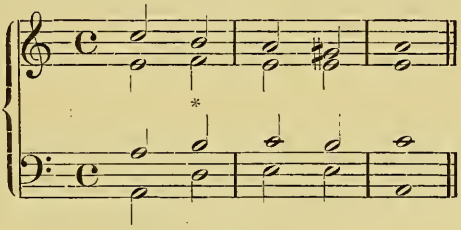
These are called cadences of the circle of fifths.

10. In final cadences the first inversion of the triad of the second degree in major (under-mediant of the sub-dominant) plays a great part.



Here this chord takes the place of the under-dominant. (See Parallel-harmonies and their purposes.)

In the minor it is the first inversion of the diminished triad which plays the same part in cadences.

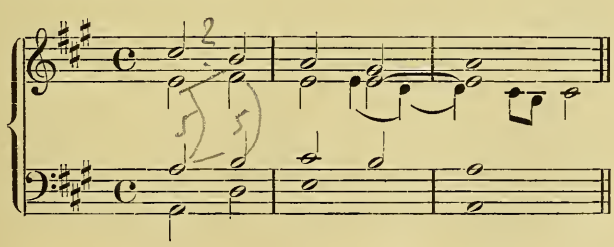


11. We obtain another kind of cadence through the major-minor system, the so-called

"Major-minor cadence."—(See this.)

It is self-evident that cadences can be embellished with suspensions and passing notes.

In cadences the striking of the seventh to the dominant triad frequently follows that chord, for instance:



12. Compositions in the minor, very often finish in the major. (Minor-major cadence.)

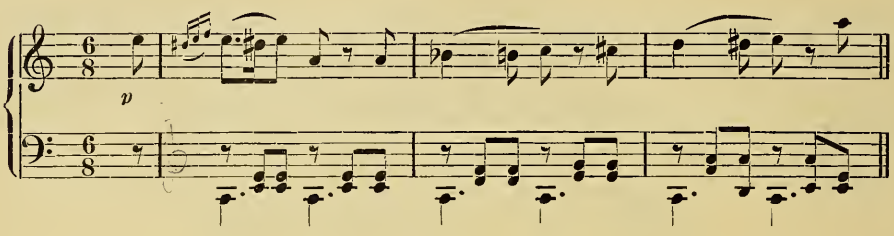
Chapter X.

The Extended (übergreifende) Minor System.

In the practice of music we meet with harmonic occurences which hitherto appeared theoretically inexplicable. Such occurrences were simply called transitional passages, accidental formations of chords, free connections of harmonies, &c.

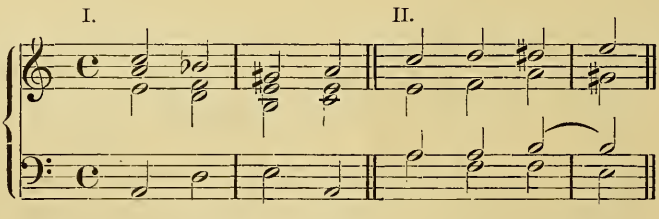
We will at once pass to the practical aspect of this matter by examples.

In Mozart's Rondo (Op. 71) in A minor, we find the following passage:



In the second and third bars we meet with a chromatical melodic figure in the upper part. The lower part remains stationary on A, while the inner parts—suitably with the chromatic melody-progression—form harmonies, which we, up to the present, have been unable to find in the minor scale. Till now, theory called this simply an accidental harmonic formation, and there the matter was left. The above illustration is, indeed, to be conceived also in the latter sense, and has only value for this treatise on account of its containing the germs of the extension of the minor system.

A short harmonic group, which we often find in A minor, shall follow here:



At I. we meet with a *B♭*, but in the simple A minor scale there is no *B♭*, and still this harmony is justified in A minor.

We find that the under-mediant harmonies of the dominant and the tonic in minor stand a *major third* lower than the harmonies of the dominant and tonic themselves. Why also was the under-mediant harmony of the minor under-dominant not sought a major third lower? By this correct logic alone we obtain a *B♭* in A minor. Practice has shown theory the way. We extend our minor system on the side of the under-dominant by

adding to it the under-mediant harmony of the tonic of the first minor key in a backward direction (to the left side of the circle of fifths).

The keys of the under-dominant progress backwards in the circle of fifths, and those of the upper-dominant forwards.

We now obtain the following representation of the harmonic minor system:

A minor: $\overbrace{B\flat\ D\ F}\ a\ c\ E\ G\sharp\ B\ d$ —

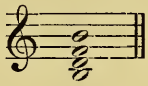
D minor: $\overbrace{E\flat\ G\ B\flat}\ D\ F\ a\ c\sharp\ e\ g$ —

G minor: $\overbrace{A\flat\ C\ E\flat}\ G\ B\flat\ d\ f\sharp\ a\ c.$

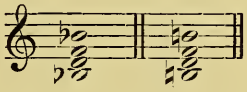
This scheme should be adopted by the pupil in all minor keys.

Thus the two under-mediant harmonies of the under-dominant are:

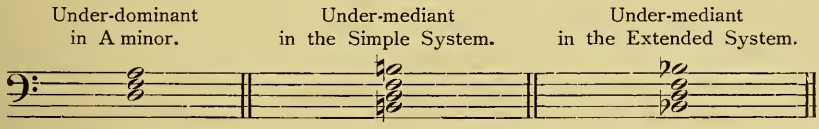
a) in the simple minor system the diminished triad (a minor third lower).



b) in the extended (übergreifenden) minor system the major triad (a major third lower) and the above diminished triad.



This is the first step towards the extension of the minor system and construction of our complete chromatic system.



We call this kind of extension of the minor system

The Extension on the side of the Under-dominant.

At II. we meet with a $D\sharp$ in A minor. This newly introduced tone has been hitherto theoretically considered as a passing tone, and this view has its reason in so far that those harmonies in A minor which appear with a $D\sharp$ never operate independently. The attachment of this tone to the minor system leads us to the

Extension of the Minor System on the side of the Upper-dominant.

By this extension we gain all the, till now, unexplained harmonies of modern music.

Searching after these harmonies will best make clear what has been said.

Our harmonic A minor system now stands thus:

Simple: *D f A c E g♯ b.*

Extended: *B♭ D f A c E g♯ b d♯.*

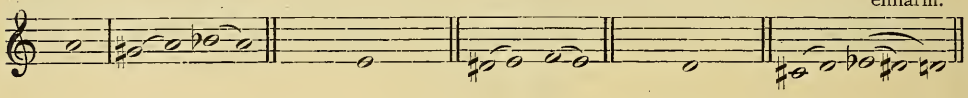
We gain by this extension

a) triads: *B♭ d f a c e G♯ b d♯ f* &c.

b) chords of the seventh: *B♭ d f a c e G♯ b d♯ G♯ b d♯ f* &c.

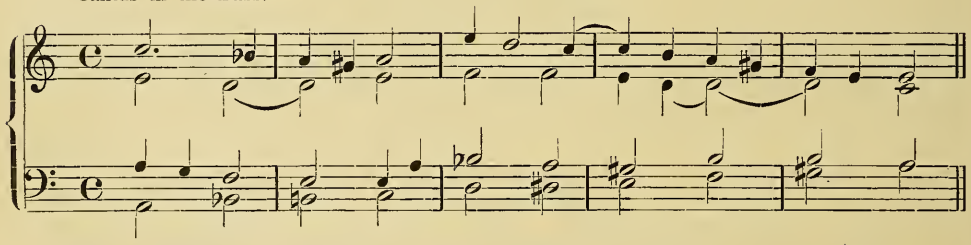
Every tone of our chromatic system of harmony has two leading tones. They are one above and one below, as shall be shown, on the principal degrees of the A minor key.

a) Tonic. Leading tones. b) Upper-dominant. Leading tones. Under-dominant. Leading tones. enharm.



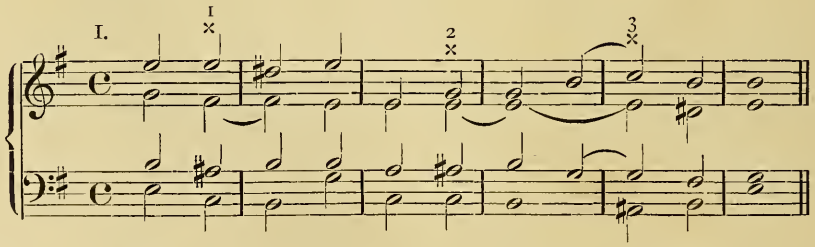
The accompaniments of these minor degrees (for instance, in the bass) would take the following form. The impression gained thereby will certainly be that the character of the key of A minor is preserved and dominates.

Cantus in the Bass.



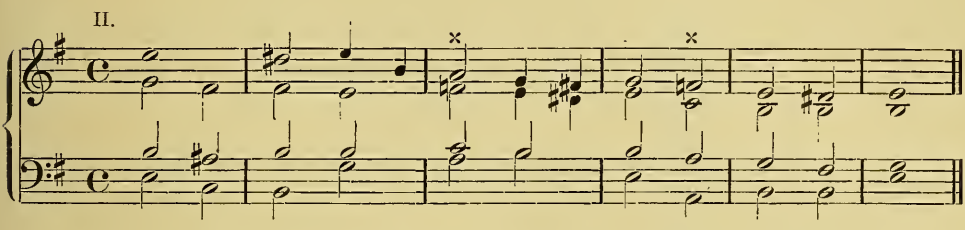
From this it is evident that the extended minor system has considerable chromatic coloring, without effacing altogether the character of a key.

We will analyse the following example:



At 1, 2, and 3 we encounter connections of chords which have no natural right in any key. There exists no scale which contains the tones

C and *A*♯, therefore these chords cannot be explained in relation to a key. The tone A♯ though, is taken over into the key of E minor by the major dominant key (that is B major) whereby these harmonic occurrences explain themselves. We call this the extension (Übergreifung) of the minor system on the side of the upper-dominant.



The two fs at * lean (extend) on the side of the under-dominant (here A minor).

The formation of chords on this side is perfectly normal, because these chords lie within the key of the under-dominant (we draw, therefore, the major under-mediant of the IV degree of a key—a major third lower—into our simple minor system) whilst the chords which we obtain by the extension on the side of the upper-dominant belong to unusual chord-formations.

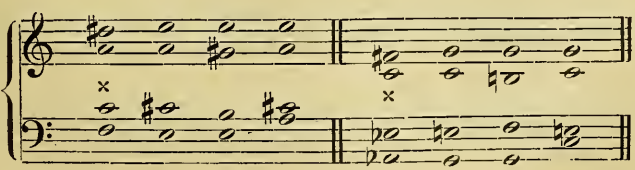
Thus in the extended (übergreifenden) minor system there are contained:

a) harmonies belonging to the scale:
b) the major triad (foreign to the key) on the VI degree of the under-dominant key;
c) the leading tone of the major dominant key, through which we gain harmonies to be specified later on.

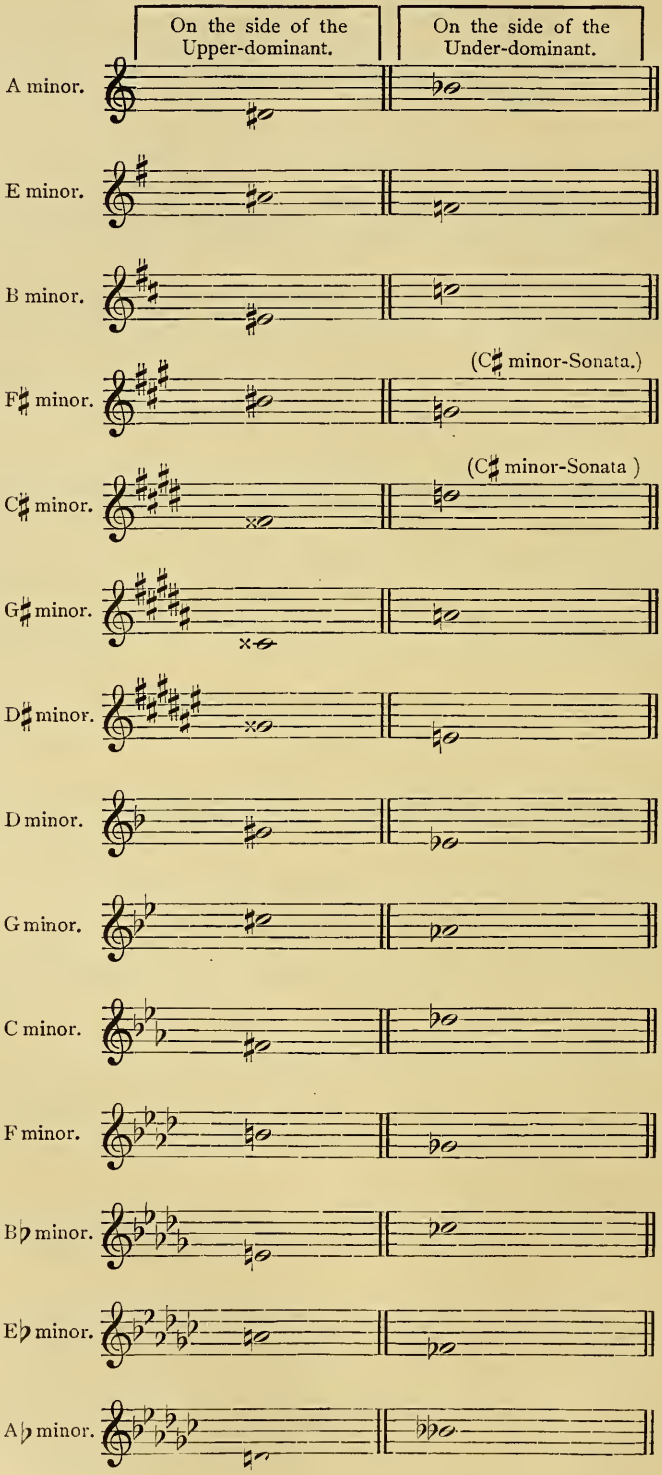
The chord at the beginning of Franz Schubert's song "Am Meere" is obtained from the extended (übergreifenden) minor system and represents, with the octave-strengthening of its fundamental tone, an unusual harmonic formation or organ-point chord.

In our modern major system we likewise use tones of keys (in passing) which are foreign to the original key, as we have seen already from the various kinds of Finals (cadences). From this taking in of tones foreign to a key our chromatic system arises.

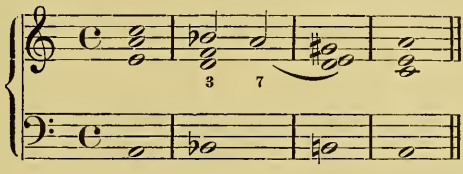
The chords gained on the side of the upper-dominant in the extended (übergreifenden) minor system we frequently use in the major system, for instance:



Newly gained tones through the Extended (übergreifenden) Minor System.



The harmonies gained by the extension of the minor system on the side of the under-dominant are the triad on B flat and the major chord of the seventh on B flat, which resolve thus in A minor:



The further harmonies found through the extension on the side of the under-dominant, are similar to those gained by extension on the side of the upper-dominant, and are therefore not specified. In searching after harmonies on the side of the upper-dominant in the extended minor system we pursue the following course:

I. Triads in the Extended Minor System.

The following representation of the A minor system only shows its extension on the side of the upper-dominant, regardless of the extension on the side of the under-dominant.

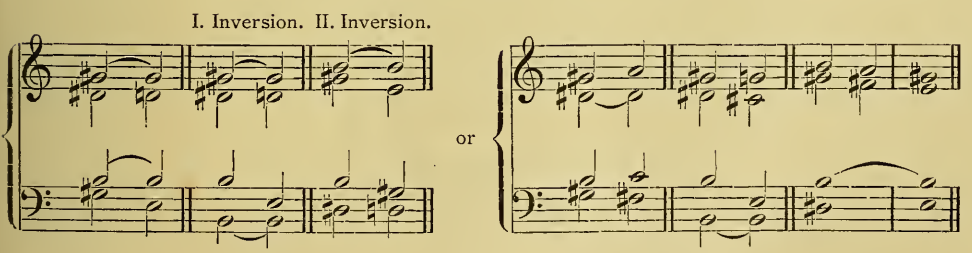
(D) f A c E g♯ b d♯.

The first newly-gained harmony in A minor is consequently *g♯ b d♯*. We call it the

Soft Triad on the 7th degree in minor.

It consists of a minor third and a perfect fifth. Its construction is exactly the same as the tonic triad in minor. But in respect to key it holds a position other than that of the triad on the first degree.

Its Resolutions and Inversions:

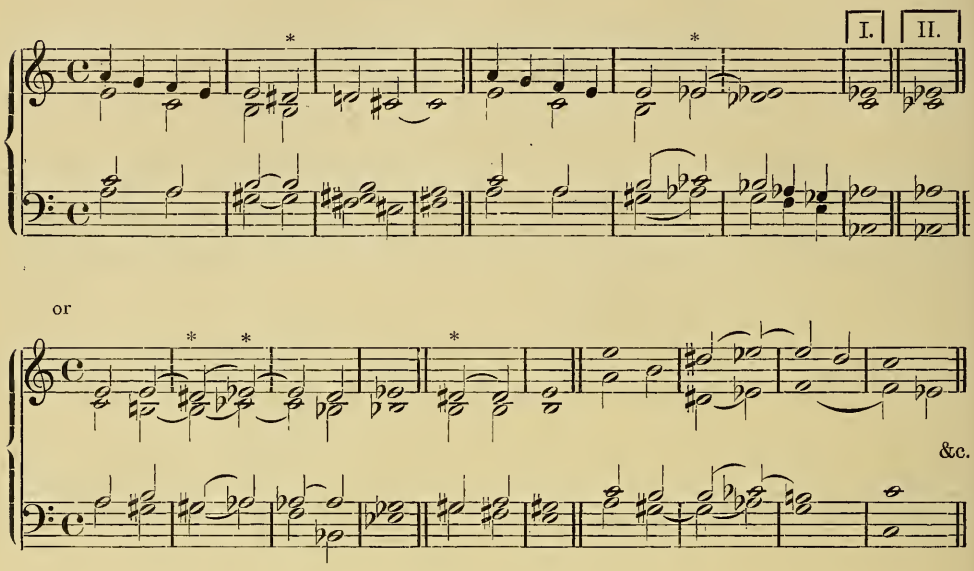


It contains two leading tones. Its ambiguity enables the musician to modulate directly from A minor into the most remote keys.

Through the soft triad we obtain two triads on the VII degree in minor, namely:

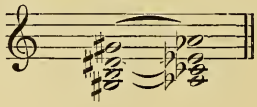
The Soft and the Diminished Triads.

The first sounds like the G♯ minor or A♭ minor triad, therefore it is of the greatest value for modern modulation. For example:



This triad stands in G♯ minor on the I. degree.
„ „ „ „ B major „ „ VI. „
„ „ „ „ E major „ „ III. „
„ „ „ „ F♯ major „ „ II. „

In the extended (übergreifenden) minor system it stands in A minor on the VII. degree.

Enharmonically 

it stands in A flat minor on the I. degree.
„ E flat „ „ „ IV. „
„ G flat „ „ „ II. „

by which is proved its great value for modulation.

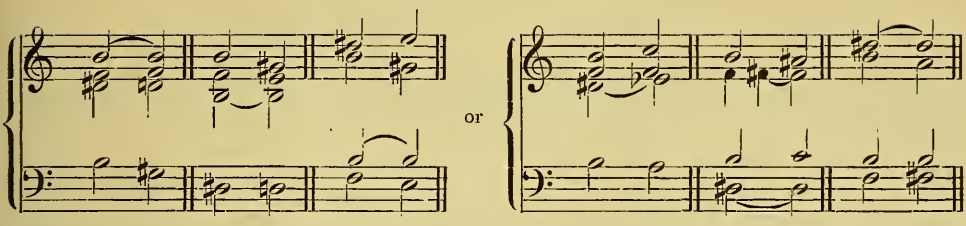
A c E g♯ b d♯ f.

The second harmony gained is *b d♯ f.* We call this chord the

Hard, Diminished Triad on the II. degree in Minor.

It consists of a major third and a diminished fifth.

Its Resolutions and Inversions:



Like its predecessor, it is remarkably suitable for modulation on account of its ambiguity. (It stands enharmonically C flat, E flat, F, in G flat major or E flat minor.)

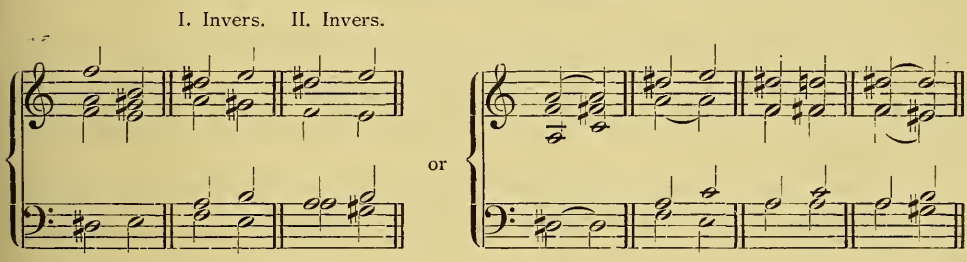
c E g♯ b d♯ f A.

The third triad gained is *D♯-f-a*, constructed with a diminished third and diminished fifth, wherefore we call it the

Doubly-diminished triad

on the IV. degree.

Its Inversions and Resolutions:



From this chord originates the augmented chord of the sixth, to which we will refer later on.

II. Chords of the Seventh in the Extended Minor System.

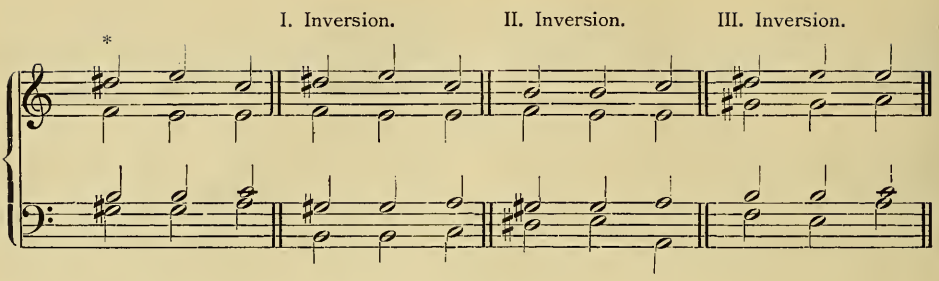
The following chords of the seventh are constructed on the triads recently discovered.

1. On the Soft Triad of the VII. Degree.

A c E g♯ b d♯ f.

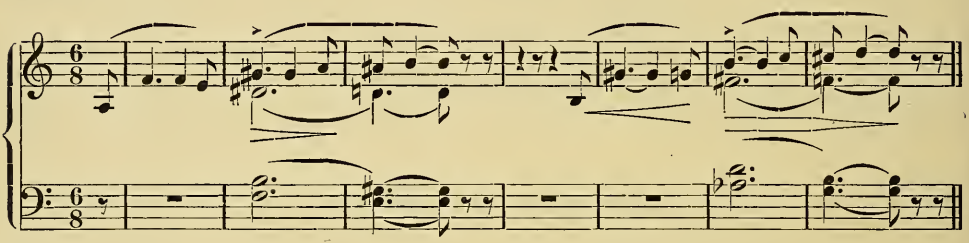
This chord of the seventh, therefore, is *g♯-b-d♯-f*, and consists of a minor third, perfect fifth, and diminished seventh, for which reason we call it the *Diminished Minor Chord of the Seventh with the Soft Triad.*

Its Resolutions and Inversions:



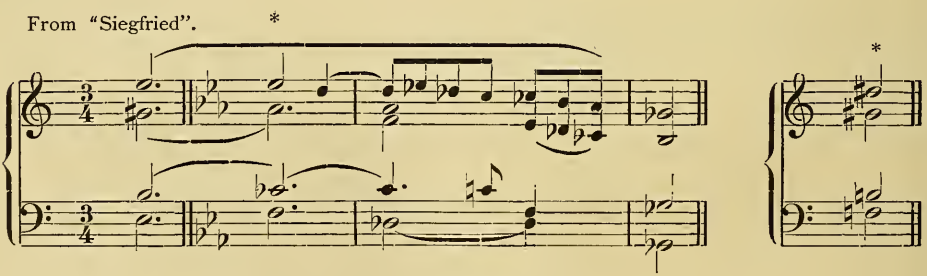
(* Enharmonically A flat-C flat-F-E flat).

Richard Wagner places this harmony at the beginning of his "Tristan".



In the second bar this harmony appears in its third inversion, and proceeds to its only correct resolution in the dominant of *A*; in the sixth bar the same harmony appears on A flat, which naturally must progress to the dominant of *C*.

In the music-drama "Siegfried" we encounter this chord enharmonically changed. It leads to a wonderful modulation from A minor to G flat major.

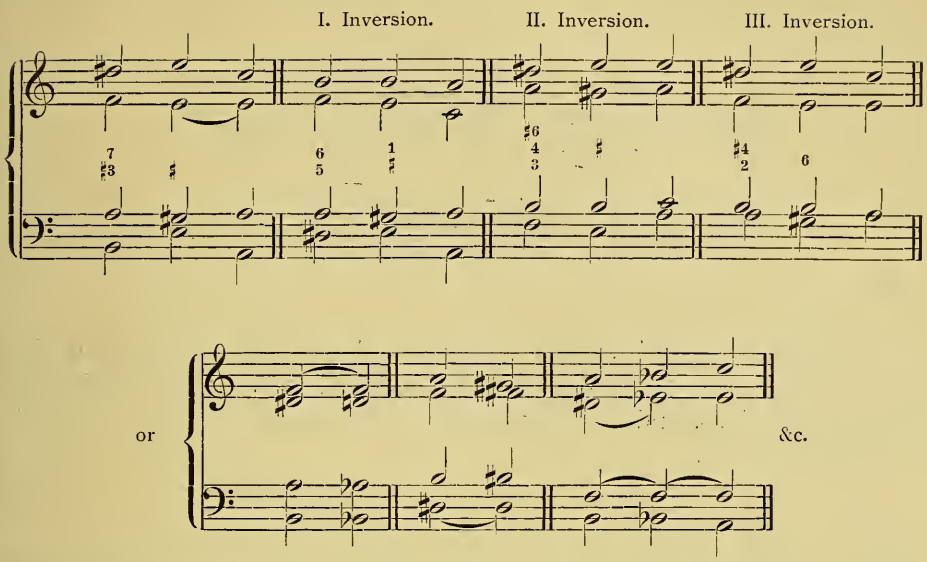


2. The Minor Chord of the Seventh constructed on the Diminished Hard Triad.

$$c\ E\ g\sharp\ \overbrace{b\ d\sharp\ f\ A}.$$

This chord is consequently *B-d♯-f-a*, and consists of a major third, diminished fifth and minor seventh.

Its Inversions and Resolutions:



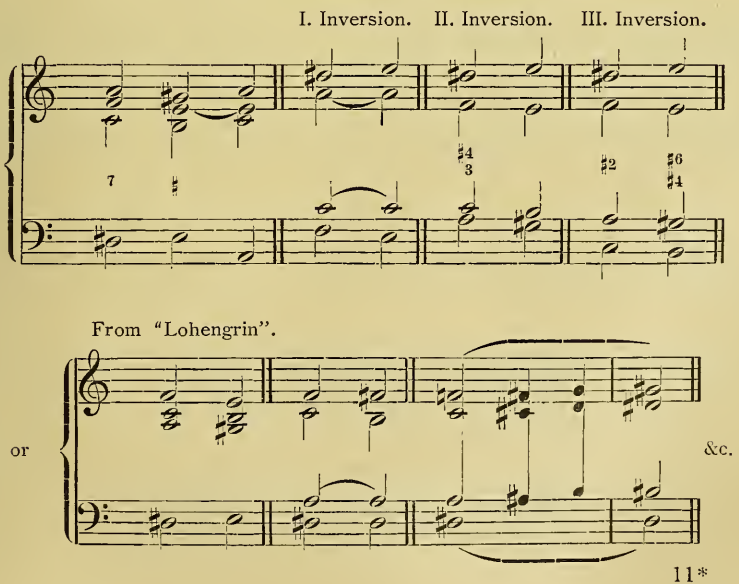
3. The Trebly-Diminished Chord of the Seventh, constructed on the Doubly-Diminished Triad,

contains a diminished third, diminished fifth, and diminished seventh.

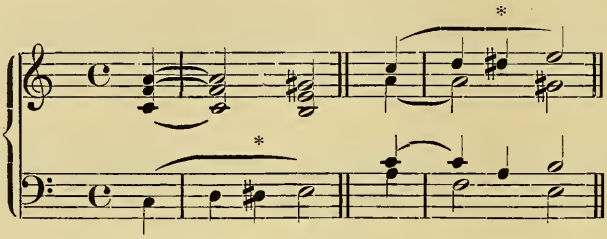
E g♯ b d♯ f A c.

Therefore the chord is *D♯-f-a-c.*

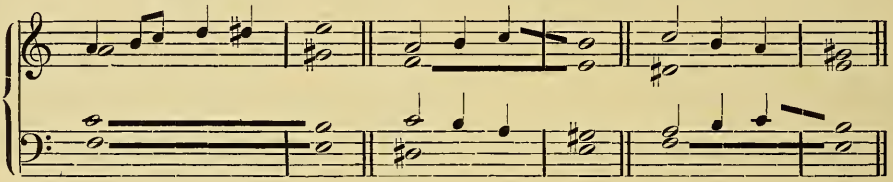
Its Inversions and Resolutions:



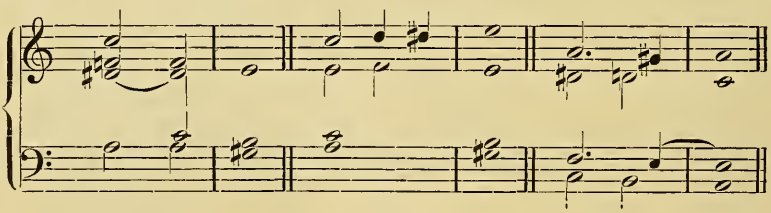
Very frequently we meet with this harmony in the progress of a transition.



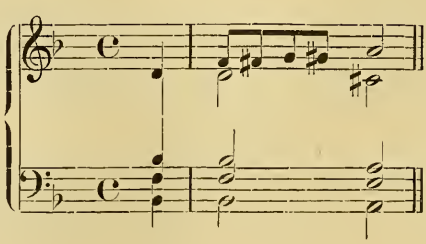
Through the first inversion of this chord arises the augmented chord of the six-five. This chord is often employed both in its fundamental form and inversions, and by its resolutions in a perfect triad the so-called "Mozart-fifths" occur.



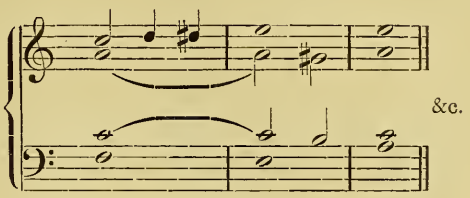
In the second and third inversions the fifths can be avoided in the following manner:



A very frequently appearing figure, in which this chord is used, is the following:



The pupil must, above all, avoid these fifths, and in such manner as not to impair the four-part writing, for instance:



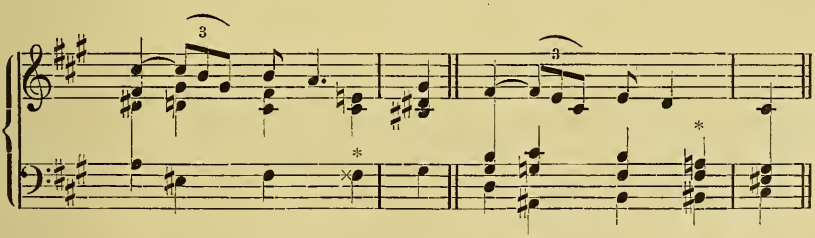
The augmented chord of the sixth is derived from the doubly-diminished triad, and the augmented chord of the six-five from the trebly-diminished chord of the seventh.

Both chords have, hitherto, been treated as chromatic transitions, but they have their native place in the extended (übergreifenden) minor system, and their construction can only be theoretically explained by the taking over into one key of another.

These two chords are of vast importance for our researches, on account of their sound-character.

Both chords do not sound to the ear like chords of three or four tones, * but like chords of the second. The first, without the sixth, namely, *D♯-F-A* sounds like E flat-*F-A*, whenever these chords are sounded by themselves.

Through these two connections of tones we arrive at a very important speciality of chords in modern music: Enharmonic chords, or chords capable of more than one interpretation. Wagner uses the second chord in its fundamental form in the prelude to "Lohengrin".



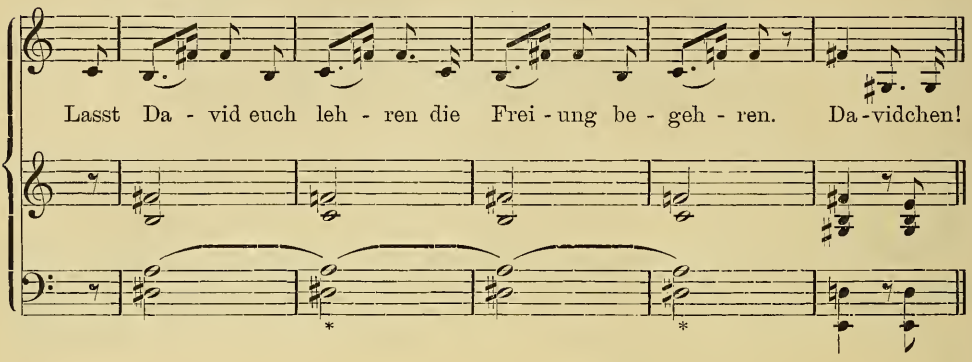
The two harmonies at * should be closely examined. They are the chords of the seventh just mentioned and—if singly played—their effect is that of chords of the second.

Their enharmonic character allows of an immense number of resolutions, and it is just on these two chords that Wagner has constructed a considerable portion of his harmonies, inasmuch as he uses them not only in their fundamental form, but also in their inversions for enharmonic movements and striking deceptive progressions. With Wagner it is all really very simple, only one must understand his enharmonic system. With this

he became a master of musical orthography on paper, and by this mastership invented wonderful music for the ear.

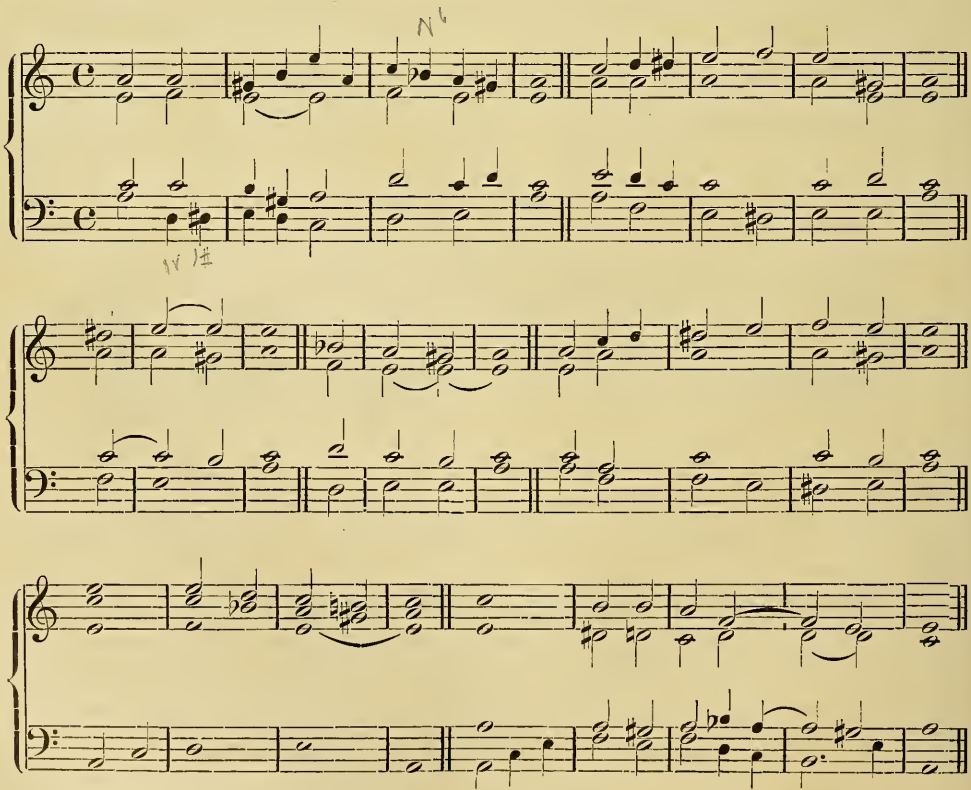
In the "Meistersinger" Wagner uses in quite a startling, subtle manner just this harmony:

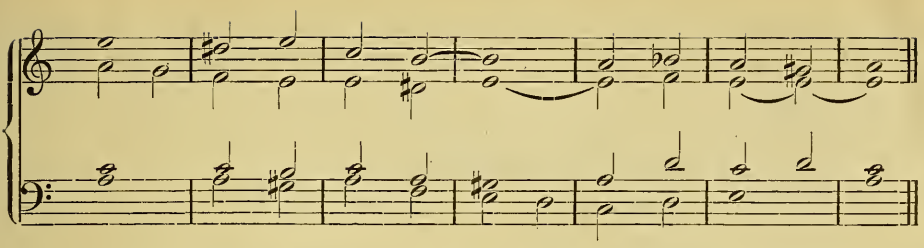
(Transposed.)



Exercise.

We will now refer to the scheme representing the newly-gained tones in the extended minor system, and use these tones for simple cadences, which the pupil should write and play in all keys.



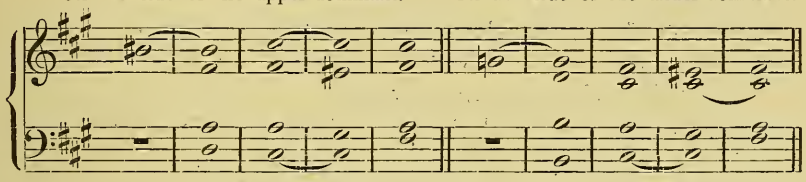


In the above examples the extended chords should be designated, and these examples should also be played in other minor keys.

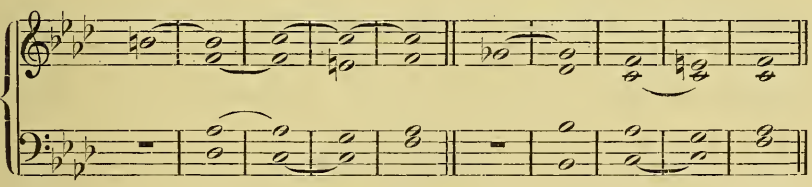
In the formation of cadences in the extended (übergreifenden) minor system, the chief thing is, that the pupil commences the harmonies at once with the relative newly-gained tone, for example:

The pupil should always play the cadence of F♯ minor first with the chord on the side of the upper-dominant, and then on the side of the under-dominant.

On the side of the upper-dominant. On the side of the under-dominant.



Or in F minor:



The whole matter will be best understood if the pupil thoroughly practise this kind of cadence in all keys. Thus, first of all, the newly-gained tones of every key should be played singly, and then the relative newly-gained harmony with its corresponding cadence (as above) should follow. The extended minor system is an acquisition for which we are indebted, principally on theoretical grounds, to Moritz Hauptmann, Weitzmann, Peter Cornelius and Joseph Rheinberger.

The chief thing is for the young school of theorists to continue to build on this basis, for this matter is of the greatest interest and value for the purposes of modulation, as well as for our enharmonic and chromatic systems. (Richter's exercise book: The augmented chords of the sixth, six-four-three, and six-five.)

There still remains the repetition of the harmonies we have found. We have learned to know:

I. Triads:

a) The major triad (great triad),
b) The minor triad (small triad),
c) The diminished triad,
d) The augmented triad,
e) The soft triad on the 7th degree in minor,
f) The diminished hard and
g) The doubly-diminished triad.

We therefore possess on the whole 7 kinds of triads.

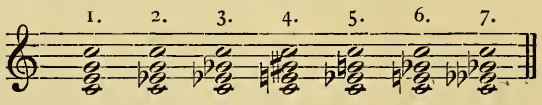
II. Chords of the Seventh:

a) The chord of the dominant seventh in major and minor,
b) The major chord of the major seventh,
c) The minor chord of the seventh in major,
d) The chord of the seventh on the seventh degree in major (simply diminished),
e) The major chord of the minor seventh,
f) The chord of the augmented seventh in minor,
g) The chord of the seventh on the 7th degree in minor (doubly-diminished chord of the seventh),
h) The chord of the diminished minor seventh with the soft triad,
i) The chord of the minor seventh, constructed on the diminished hard triad,
k) The trebly-diminished chord of the seventh constructed on the doubly-diminished triad.

We therefore possess on the whole ten kinds of chords of the seventh.

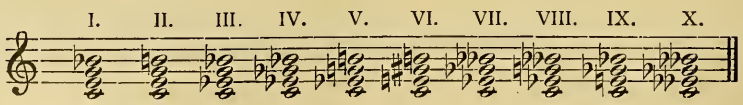
If we write all the triads and chords of four tones (Vierklänge) on the tone of *C*, we shall best remember what we have learnt in this chapter.

I. The Triads.



The triads 2 and 5 are only apparently similar. The 2nd triad is the minor triad of the major system, or the minor triad of the simple minor system. The 5th triad is the soft triad of the 7th degree in minor and has other harmonic meaning, therefore is of different consequence than the 2nd triad.

II. Chords of the Seventh.

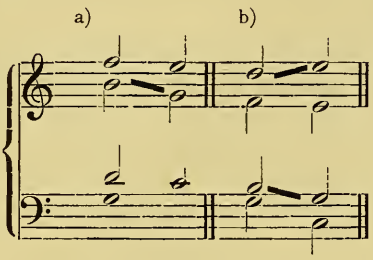


These chords of the seventh all occur in music. Their resolutions in harmonic regard, are rather exhausted.

With reference to the resolution of chords of the seventh, it has been hitherto considered an incontestable rule, in respect to intervals, that the third must resolve upwards, the fifth and the seventh downwards.

The pupil should keep to this rule in early exercises.

Practice, however, has resolved the third and fifth downwards and upwards, as here shown:



At a) the third is resolved downwards; at b) the fifth resolves upwards and the third downwards.

In the inner parts of choral compositions for male voices the third of the chord of the seventh often resolves in the fifth of the triad, in order to secure a perfect cadence. This resolution always sounds forced and unbeautiful. It is the same in compositions for mixed voices as in male choruses.

As soon as the pupil has acquired a thorough knowledge of triads and chords of the seventh he should be urged

1. to play, lay out, and himself invent figured basses,
2. to practise attempts at composition—but without words— for instance, preludes, which must be conscientiously revised by the teacher.

If the pupil's attention be drawn to the faults occurring, he will soon, in accordance with the old pedagogic principle, "One learns by mistakes", be able to write fluently.

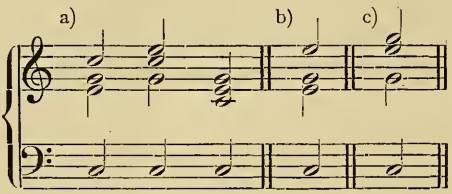
Chapter XI.

§ 1. Doublings and Omissions in the Triad and the Chord of the Seventh.

1. In the Triad.

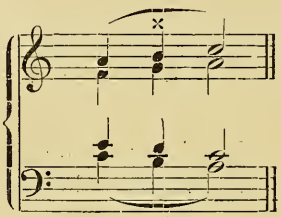
When one of the tones belonging to a harmony is repeated, doubling arises, but when a tone is wanting omission occurs. For instance, in four-

part writing, the triad in every position generally has its tonic doubled in the octave, but every interval in it can be doubled:

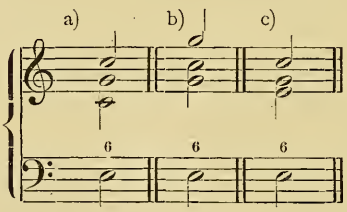


At a) the tonic is doubled in the octave in all three positions, at b) the third, and at c) the fifth.

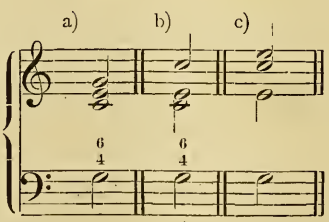
When doubling the third in the triad, it should be observed what position the triad has in the key. If it be the dominant triad the doubling of the third would be false, because it is the leading tone, and octave-parallels would arise in the resolution. It should always be remembered that in four-part vocal writing the leading tone must never be doubled, except in contrary motion.



In the chord of the sixth, the sixth and the third are mostly doubled, the tonic not so much, because it is the leading tone.



At a) the sixth, at b) the fourth, and at c) the tonic, is doubled. The chord of the six-four can be doubled in all its intervals.



At a) the tonic is doubled, at b) the fourth, and at c) the sixth.

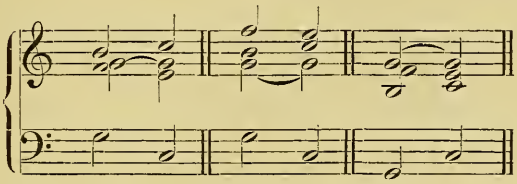
In the triad only the octave can be omitted, but in very special cases, the third or the fifth may also be left out.

The Ninth Symphony of Beethoven commences with the third of the triad omitted, likewise the overture to Wagner's "Flying Dutchman".

In the music of Palestrina the final chord is often found with the empty perfect fifth alone, the third being entirely absent.

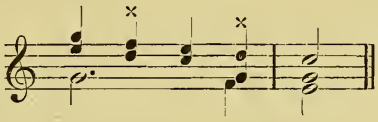
II. In the Chord of the Seventh.

In the chord of the seventh the tonic can be doubled in the octave. By this one interval falls away, which can only be the fifth.



Omissions of the third in the chord of the seventh take place very rarely, and they should be avoided as much as possible.

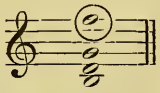
Phrases, like the following:

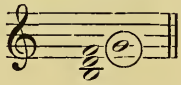


sound especially empty in a slow movement, but in quick tempo this emptiness is less felt.

The seventh must never be omitted in the chord of the seventh, inasmuch as it is the characteristic interval of the chord.

In the chord of the six-five only the third can be omitted, but never the fifth or sixth.

If we omit the fifth  a single chord of the sixth arises.

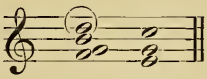
If we omit the sixth  the diminished triad arises.

In doubling one interval always falls away, therefore it should be noted:

that neither by doubling, nor by the omission of an interval, should the character of a harmony be lost.

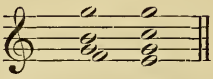
In the chord of the $\frac{6}{4}_{3}$, the fourth can under no circumstances be omitted, because thereby the chord of the sixth of the diminished triad would occur in all positions. In the same manner, by omitting the third, the chord of the six-four would arise, and the character of the chord thereby disappear.

In the chord of the second, the sixth can be omitted

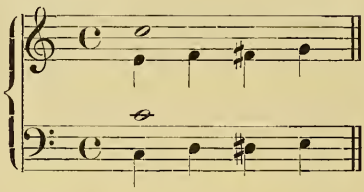


but no other interval.

Here the second may be doubled:

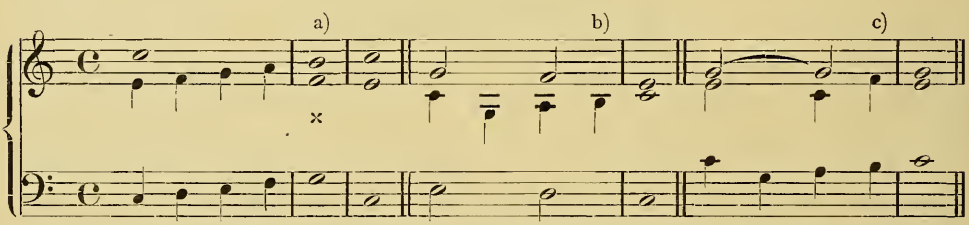


One of the principal points in connection with passing tones is to find the correct omission, for example:



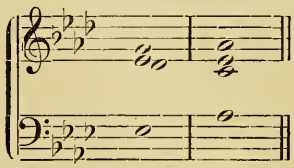
Here the fifth (g) would be very disturbing, therefore it must be left out.

In three part writing one interval of the chord of the seventh or its inversions *must* always be omitted, for instance:



At a) the fifth is omitted, at b) the fourth, and at c) the third.

In four-part writing the fifth in the chord of the seventh is frequently left out, in order to obtain a full triad for the cadence.



Such occurrences are best explained in practice.

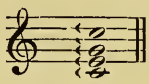
§ 2. Broken Chords.

(Arpeggiare, Arpeggio.)

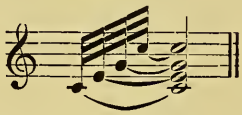
Up to now we have learned to know the chords with their intervals sounding simultaneously.

But a harmony can be broken, that is, its intervals can proceed one after the other, without the harmony losing its individuality.

In music for the piano the breaking of a chord is indicated in the following manner:

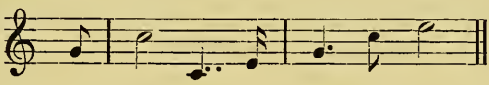


Execution:

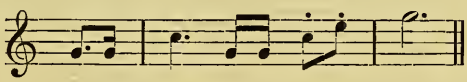


The arpeggio particularly lends itself to accompaniment.

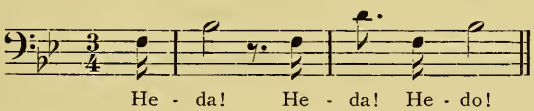
As material for study on this subject the 1st and 3rd movements of Beethoven's Sonata in C sharp minor can be especially recommended. As a preliminary example the "Sword-motive" from Richard Wagner's "Nibelung's Ring" may be quoted:



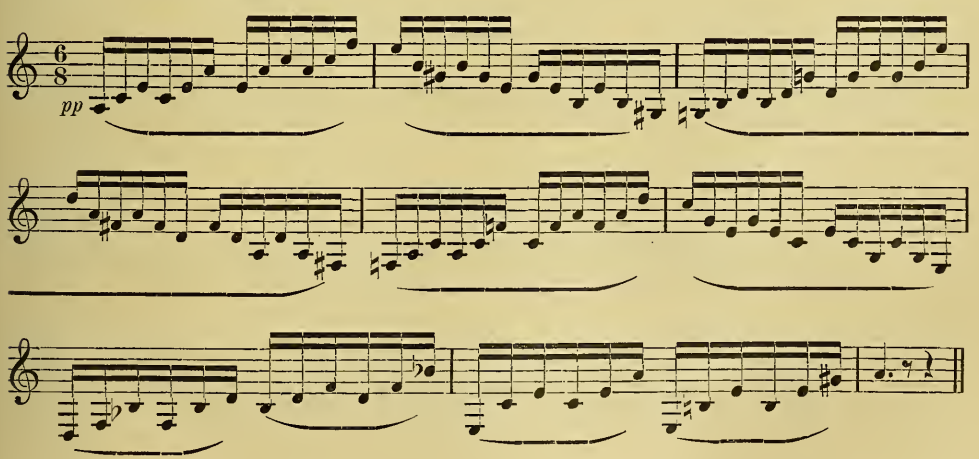
As a second illustration the "Rheinruf" (Rhine-call) from the same work:



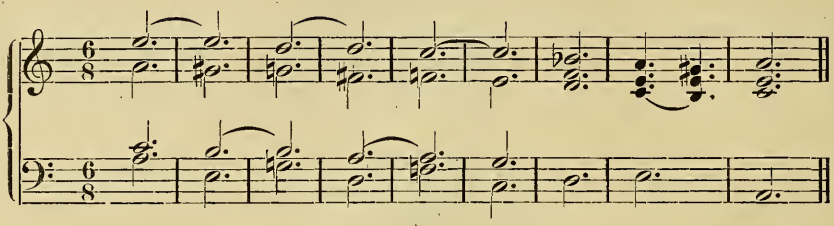
Likewise the "Gewitterzauber" (Storm-magic) motive in "Rheingold" and "Walküre":



An appropriate example from Rheinberger's Op. 101, No. 2, must not pass unmentioned.



The broken chords of this study, when joined, assume the following form:

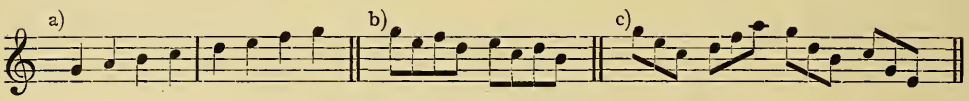


Whenever such phrases occur, the teacher should at once cause the pupil to play the correct progression of the harmony on the piano.

§ 3. Musical Motions.

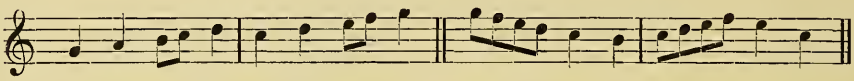
By motion is understood the progression of the parts in music. We distinguish:

1. Similar Motion.



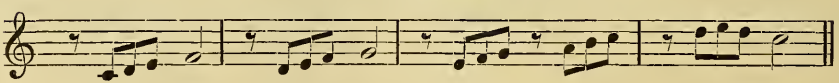
At a) we find a similar movement of crotchets, at b) of quavers, and at c) of triplets.

2. Mixed Motion.



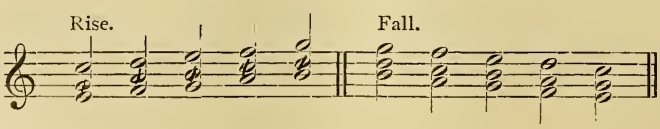
These two examples are a mixture of crotchet and quaver movements.

3. Interrupted Motion.



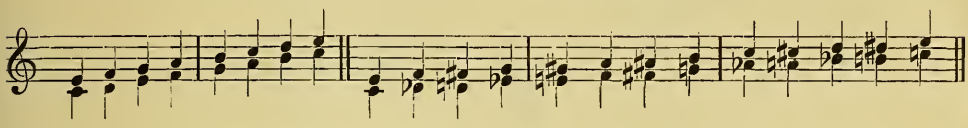
4. Parallel Motion.

By parallel motion is understood the progression of two or more parts in one and the same direction, therefore their similar rise or fall.

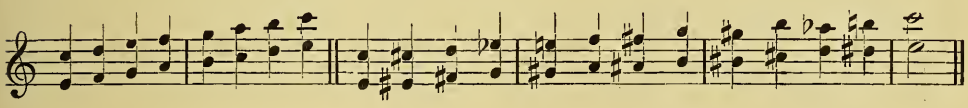


Parallel motions agreeable to the ear, and therefore permissible, are the following:

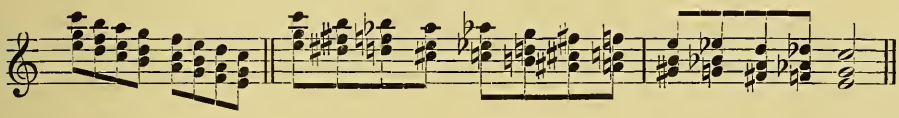
a) Parallels of thirds, in diatonic as well as chromatic sequence.



b) Parallels of sixths, also in diatonic and chromatic sequence.



c) Parallels of chords of the sixth, diatonic as well as chromatic.



These parallels occur both in an ascending and descending direction.

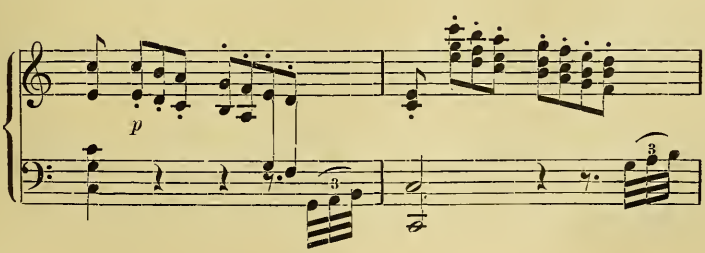
(For Forbidden Parallels see the chapter on "False Progressions".)

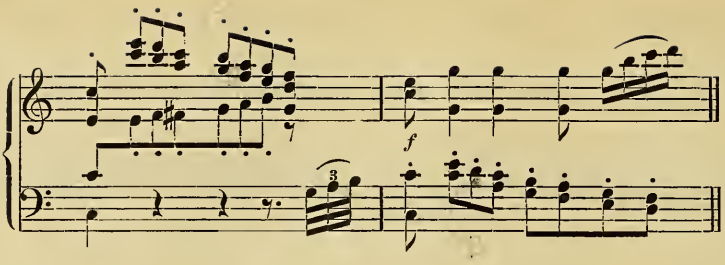
5. Contrary Motion.

It arises when two or more parts move towards or from each other, and is therefore the opposite of parallel motion.

The most instructive and most beautiful example we find in the overture to Mozart's "Titus".

It is the following passage:

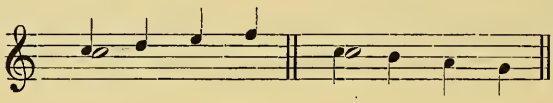




The first bar contains parallels of sixths in the upper parts, with contrary motion in the bass. The second bar contains parallels of chords of the sixth, with contrary motion in the bass. The third bar is composed of parallels of thirds in quavers moving downwards, of a rhythmically even, contrary motion in the inner part moving upwards, and of the hitherto firmly adhered to contrary motion in the bass.

6. Side Motion (Oblique Motion)

consists in one part moving upward or downward, whilst the other remains stationary.



It is principally employed in organ points and ligatures.

The contrary of motion is rest.

The tones of the tonic and its octave form the rest, the tones rising and falling between them form the motion.

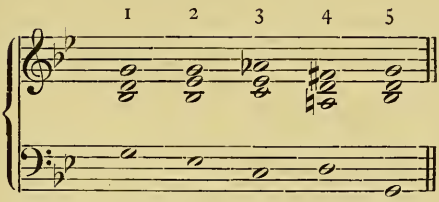
Chapter XII.

The Major-Minor System.

We understand by this the combination of major and minor in such manner that both are equally entitled to stand closely side by side. By this means we arrive at the complete chromatic system.

The chords of combination which join major and minor are the dominant triad and the chord of the dominant seventh. These two chords belong to the major as well as to the minor species and can be resolved in major or minor.

We meet with this combination in the most simple minor cadence, for instance:

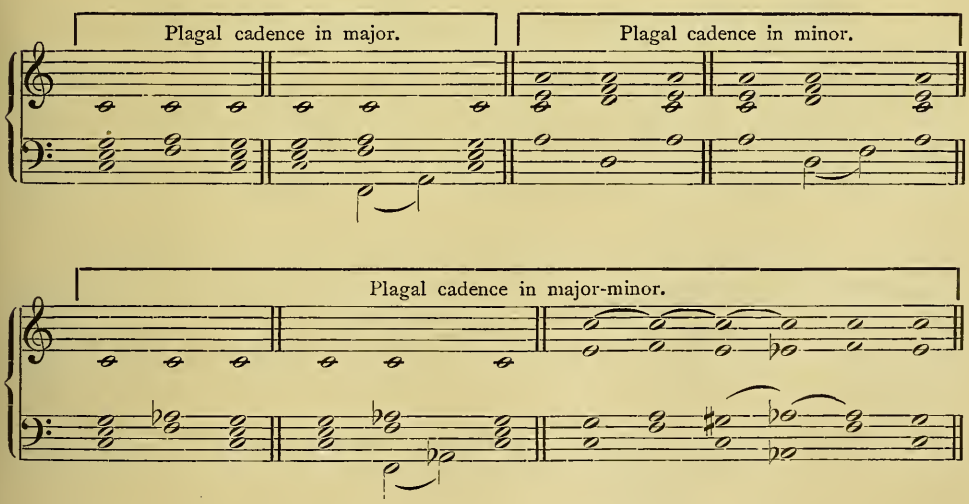


1 = Minor,
2 = Major,
3 = Major (through the Extended Minor System),
4 = Major,
5 = Minor.

We even find here a predominance of major harmonies, although the whole bears the stamp of the minor.

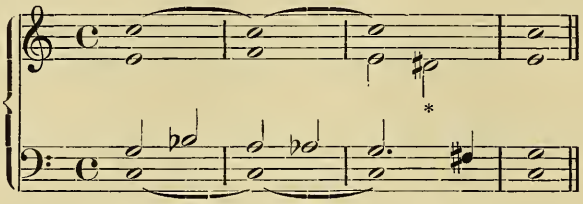
When looking for the triads in the major system we found that the major species contains three minor triads, whereas only two minor triads are to be found in the minor system. In the major the triads on the principal degrees are major triads, in the minor, on the other hand, only the triads on the I. and IV. degrees are minor triads, whilst the triad on the V. degree appears artificially as a major triad. (See melodic minor scale.)

We find the combination of major and minor in our cadences as well, especially in the Plagal cadence.

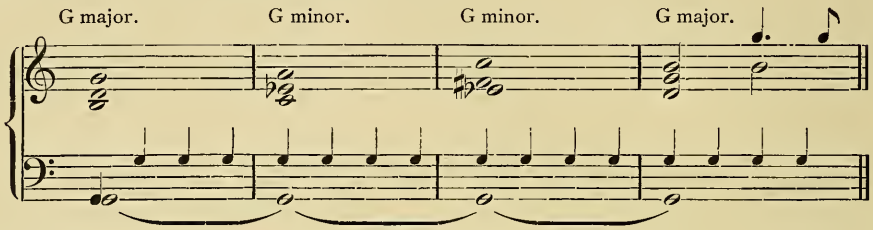


The tone of the minor third in the major tonic triad, which often occurs chromatically as a transient tone, may be very ingeniously used in the major-minor system.

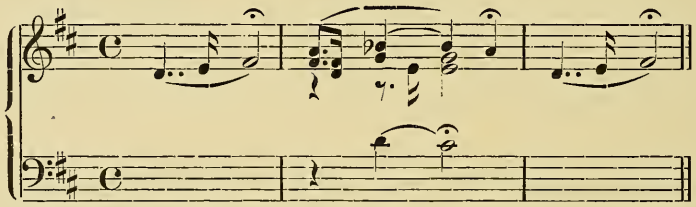
In the following example this tone is enharmonically changed, that is, enharmonically notated, thus: D sharp instead of E flat.



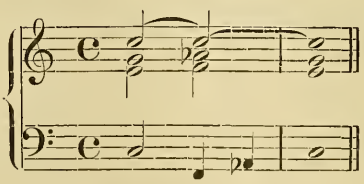
The second part of the Finale of Mozart's "Jupiter" Symphony commences with the following harmonies:



The whole bears a double character: G major and G minor. Thus are the major and minor systems blended in these four bars. Let us look at the first two bars of the overture to "Oberon" by C. M. v. Weber.



The first bar and the first quarter of the second bar bear decided major character. The second crotchet of the second bar with its B flat belongs to D minor. On the third crotchet this B flat still remains as a suspension, whereby the whole harmonic group receives a minor character. Only in the third bar the position becomes clear again, and we find ourselves in the major.—The "Pilgrims' Chorus" from "Tannhäuser" is a continuous mixture of major and minor harmonies. The introduction of the tone A flat in C major (generally the introduction of the upper-mediant chromatically lowered in every key) is only harmonically (not melodically) justified. By this means the key becomes mellower and softer, for instance:



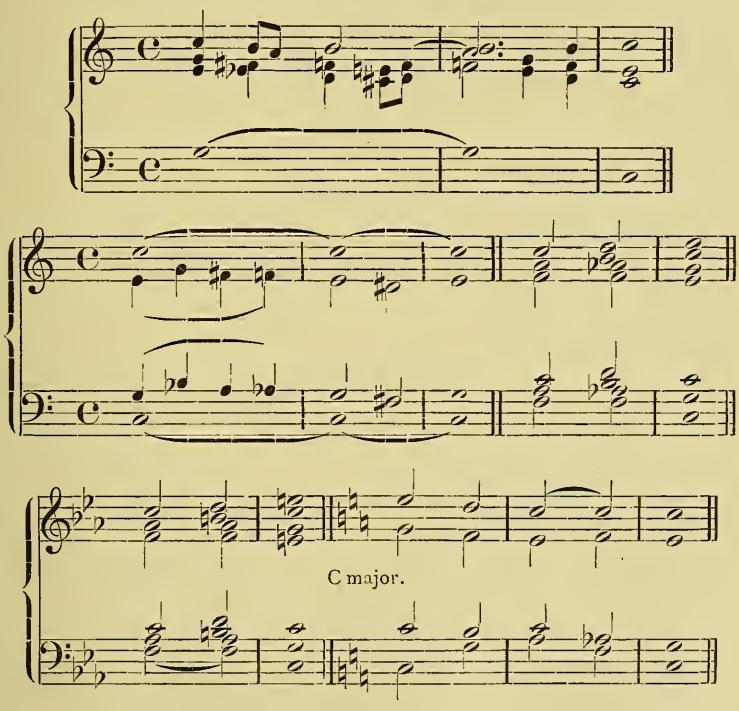
Major and minor are thus blended.

It is the business of the teacher to point out such occurrences to the pupil. A musician left to himself should not pass by phrases like these without thoroughly analysing them. The quick perception of this matter furthers the understanding of our modern music exceedingly. Much will become clear and comprehensible which hitherto appeared obscure and incomprehensible.

Here the whole treatise on cadences must be repeated, and the following added in extension. Besides the cadences already dealt with we have yet to specify

The Modern Chromatic Cadence.

In modern music we meet with species of cadences, which, indeed, are not in keeping with the up to now accepted rules, but they are very effective, and for this reason have their full justification in art-work. The magnificent chorus "Wach auf" (Awake!) from the "Meistersinger" finishes with the following cadence:



The above cadences we find principally in organ-music.

Once more it shall be mentioned here that—especially in schools of music—not only the teacher of theory, but also the teacher of the organ and piano, should again and again point out the most important exemplifications of the science of music occurring in the composition the pupil has finished playing. Only thus will the pupil attain to a "musical conscience", that is, to play consciously, and not allow important matters to pass him without examining them and thereby learning to understand them.

Chapter XIII.

On Dissonances in Music.

There are consonant and dissonant harmonies in music. The consonant chords are independent, the dissonant dependent and wanting (striving after) resolution. We also distinguish consonant and dissonant intervals.

The Major and Minor Triads only are consonant. All other triads, all chords of the seventh and ninth, as well as their inversions, are dissonant. In the dissonant chords those tones (intervals) which do not accord with the fundamental tone of a consonant chord are considered dissonant.

Dissonance, therefore, is a conflict for mastery between two or more tones, harmonically the adjustment of the mathematical balance in a chord. Dissonance does not satisfy the ear, and strives after resolution. The more interesting the resolution of a dissonance, the greater the effect. It is not difficult to write dissonances, but to resolve them requires the greatest art.

Consonant intervals are:

a) The perfect prime and perfect octave,
b) The perfect fifth,
c) The major and minor thirds, which become minor and major sixths by inversion.

Dissonant intervals are:

a) The minor second and its inversion: the major seventh,
b) The major „ „ „ „ the minor seventh,
c) „ augmented „ „ „ „ diminished seventh,
d) „ diminished third „ „ „ augmented sixth,
e) „ „ fifth „ „ „ „ fourth,
f) „ augmented „ „ „ „ diminished fourth.

Between the two classes stands, as sole representative of the third class, the "Perfect Fourth". As the inversion of a consonance—the perfect fifth—it contains some of the virtues of a consonance, although they are only of a negative character, for by its being thus bound it has not the force of a determined resolution. In consequence the right denomination for it would be:

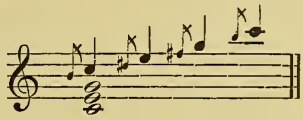
"A Dependent Consonance".

The fourth is of a binding, mediant character. *We distinguish essential and unessential dissonances.*

In the chord of the seventh, the essential dissonance is the seventh, in the diminished triad the fifth, and in the chord of the ninth, the ninth.

The Grace-note (Appoggiatura).

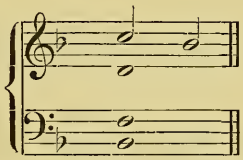
This is a melodic embellishment of one of the tones of a harmony, and an unessential dissonance.



We possess long and short grace-notes, but these matters belong to the treatise on "Ornamentation".

Suspensions.

We understand by a suspension the delay of an expected tone-step. It has a mediant character: its aim is dissonance, and therefore only certain suspensions are agreeable. The suspension is most effective when the suspended tone does not occur in any other part, but there are exceptions, and it is for the sound to decide. For instance the tone suspended in the treble can stand in the bass and the character of the suspension be still preserved, thus:

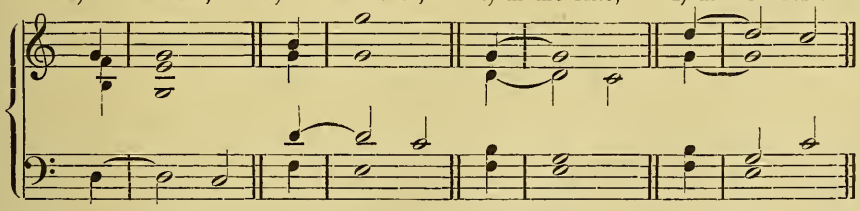


Suspensions can occur in every part and in every chord.

A. Suspension on the Triad.

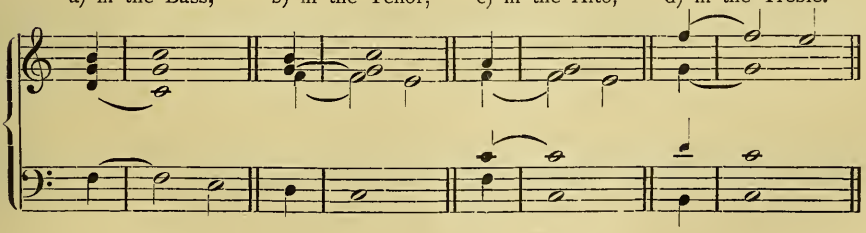
1. Suspensions of the Fundamental tone and its Octave.

a) in the Bass, b) in the Tenor, c) in the Alto, d) in the Treble.

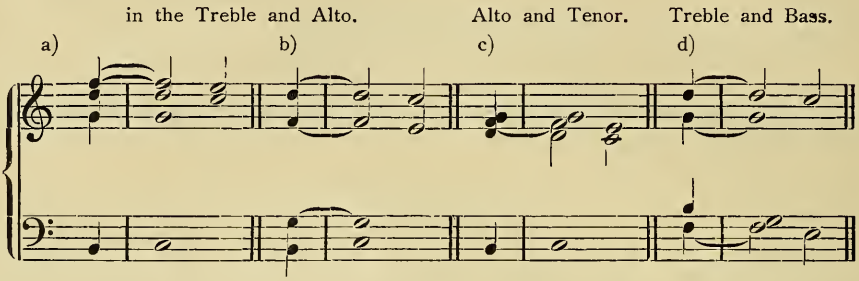


2. Suspensions on the Third.

a) in the Bass, b) in the Tenor, c) in the Alto, d) in the Treble.



The suspension of the fifth in the triad is ineffective.—Hitherto we have dealt with single suspensions. But in the triad double suspensions are also possible, that is to say, the third and the fundamental tone in the octave may be suspended



The last example would be impossible in close harmony without sacrificing the four-part writing.

By the suspension of the third in the triad arises the Chord of the Five-four ($\frac{5}{4}$).

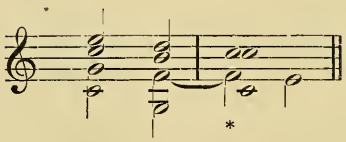
By suspending the octave from above the so-called four-part chord of the ninth (9) arises.

These two chords have been uncharitably shown the door by modern theorists, but the practice of many years has taught me this is an injustice. The chief thing is closely to discriminate between the tone which forms the suspension, and the tone which is suspended, viz:

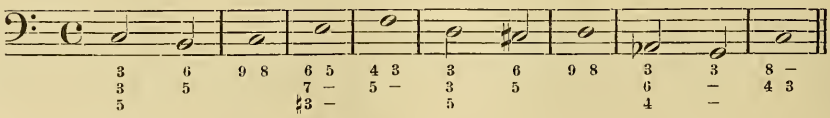
The Tone of Suspension and the Suspended Tone.

The suspended tone must always be prepared, that is, it cannot step in freely, but must be already contained in the preceding chord (chord of suspension).

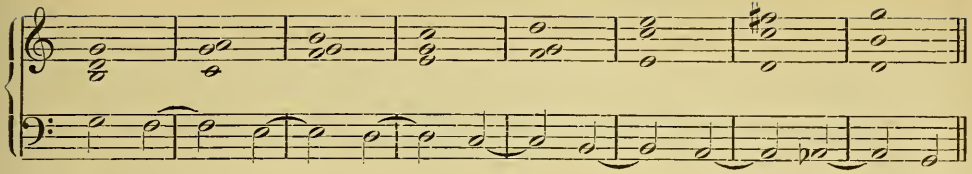
(The System of Free Suspensions belongs to Counterpoint.)



The F is here the tone of suspension, E the suspended tone. This matter should always be correctly settled. F is prepared in the preceding chord of the seventh.



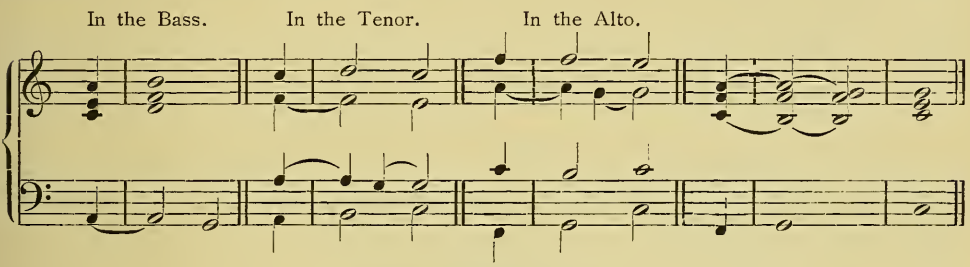
Less effective suspensions arise when the tone of the suspension is contained in the succeeding chord. Such suspensions are only good in similar motion and can only be used transiently, for instance:



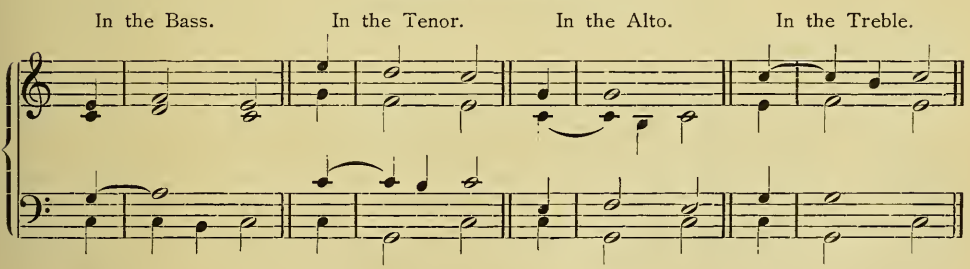
For the present suspensions should not be allowed to arise independently, they should be prepared, for instance:

B. Suspensions on the Chord of the Seventh.

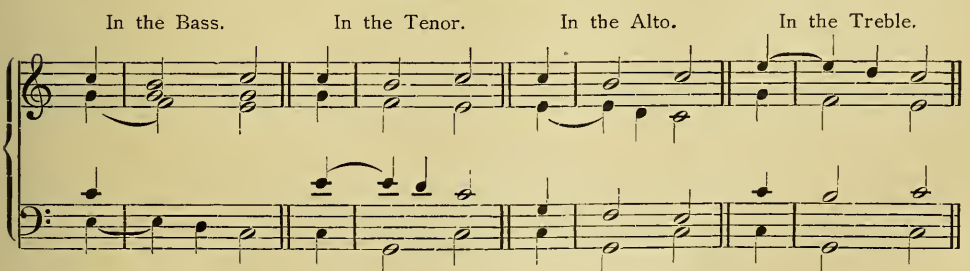
The suspension of the fundamental tone is—as in the triad—only possible in the bass, the remainder of the suspensions following the first of the underwritten example are delays of the fundamental tone in the octave.



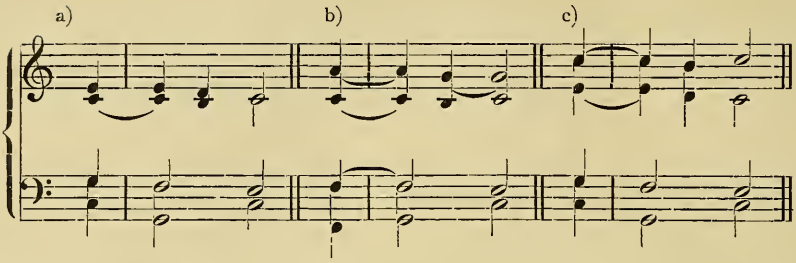
Suspensions of the Third.



Suspensions of the Fifth.

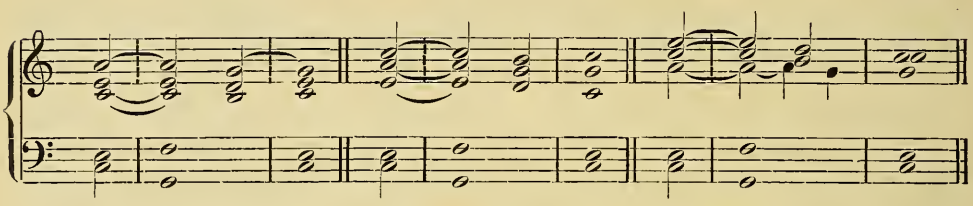


Double Suspensions on the Chord of the Seventh.



At a) the fifth and third are suspended in the treble and alto, at b) the fundamental tone and the third in the treble and alto, at c) the third and fifth in the treble and alto.

Triple Suspensions on the Chord of the Seventh.

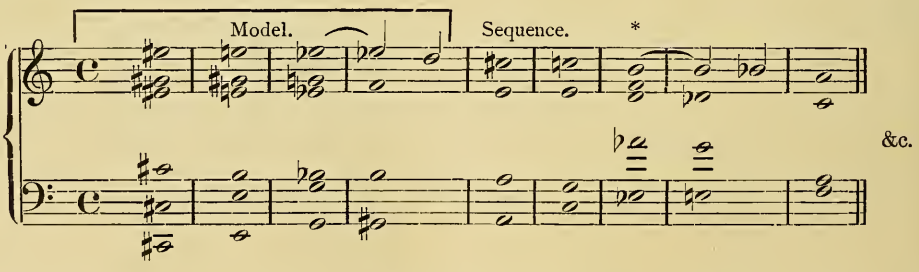


These suspensions form naturally in five part writing and are mostly, as shown here, in the upper parts. In practical use suspensions for the most part are unessential.

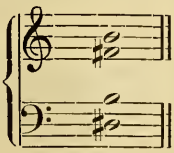
The false appliance of a dissonance is called

Catachresis.

A remarkable example of this kind is found in R. Wagner's "Siegfried" which follows here:



It is perceived that here a sequence of a four bar model has to be dealt with. The right chord, analogously with the model, would at * be this:

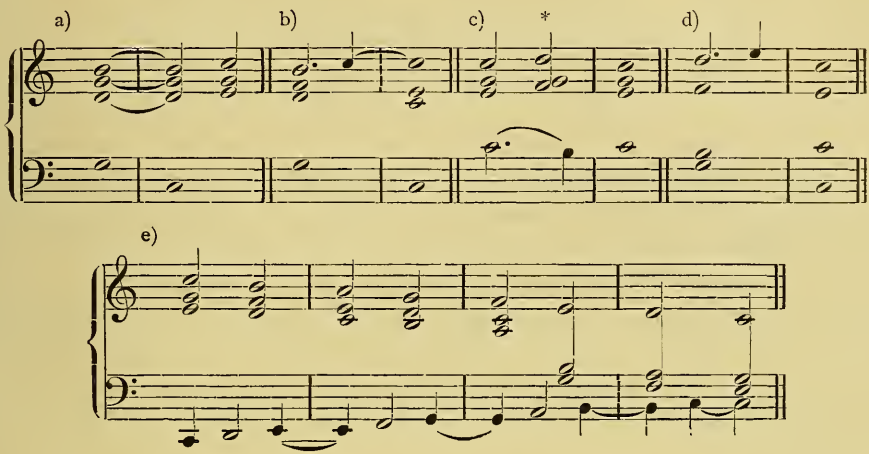


All other information on this subject belongs to the System of Tonal and Harmonic Characteristics.

Richter's Exercise book: Suspensions.

Anticipations.

Anticipations are the opposite of suspensions. Suspension means delay, but anticipation is the entry in advance of an unexpected tone or tones.

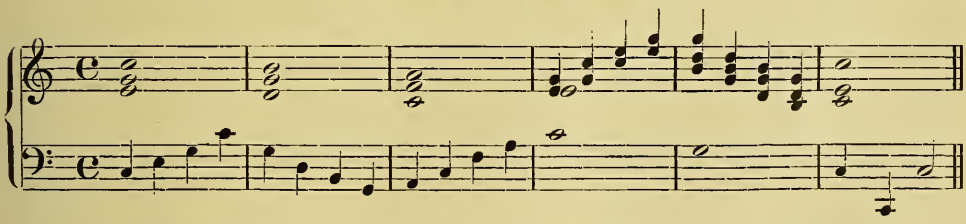


At a the bass tone *C*, at b the *C* of the treble are anticipations: at c the whole harmony of the upper parts, and at d the *E* are the same. At e we meet with an insistent anticipation of the bass tone. The example c has a double character. The upper parts form the anticipation for the bass, the bass forms the suspension for the upper parts.

(The pupil should analyse more examples, given by the teacher.)

Transit tones (Transito).

1. Harmonic Transitions.



The transient (passing) notes in this example are all contained in the harmony in which they appear.

(They do not properly belong to the chapter on Dissonances and yet they stand here decidedly in the most appropriate place.)

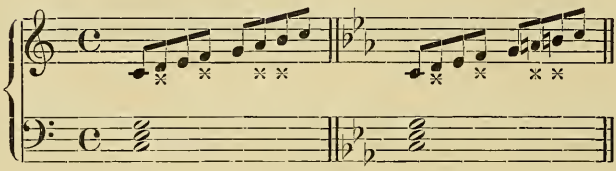
Here the system of Broken Chords should be gone through again.

(See preliminary exercises for simple Counter-point.)

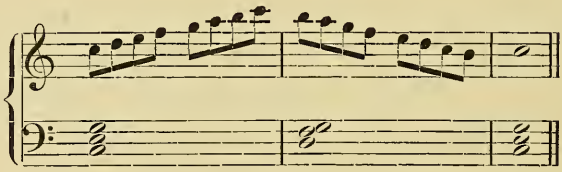
2. Melodic Transitions.

I. The Diatonic Transit.

By this we understand all tones belonging to the diatonic major and minor scales, which appear step by step upwards and downwards.



Another glance at the first example (harmonic transitions) will easily discover the difference existing between it and the last example. In the former nothing but transient tones belonging to the harmony, in the latter, transits of tones foreign to the harmony. This latter species aims at the formation of melodic phrases. The notes marked × are foreign to the harmony. Absolutely no dissonance exists in the last two examples for the ear. The tones foreign to the harmony appear as melodic transitions which again and again move to harmonic tones. By the similar movement matters are equalized, only the eye finding dissonances.



(The harmonic tones and those foreign to the harmony should be denoted.)

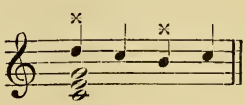
Such phrases possess the character of studies. If we regard the passing-notes from a practical point of view we will come to the point more quickly. The similar motion of passing notes opposite a harmony is called *Figuration.*

Phrases relevant to this subject are to be found in the Overture to "Euryanthe", the "Tannhäuser March", "Lohengrin" &c.

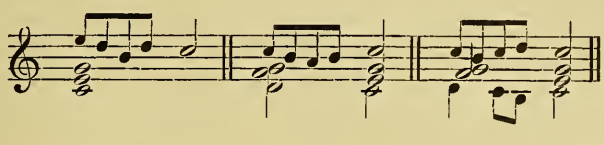
The figuration may lie in the bass as well as in the upper part.

These melodic secondary tones (or diatonic transits) can be divided into two kinds:

a) Changing tones. They move freely and progress step by step to the harmony tones:

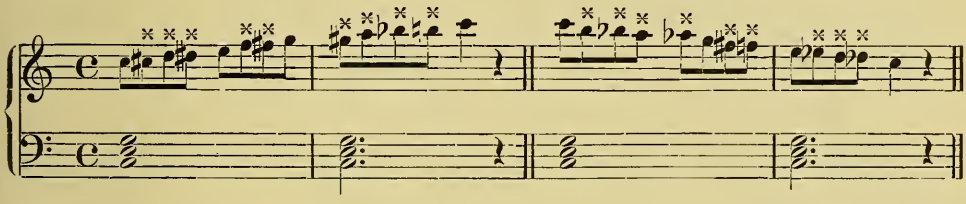


b) Circumscribing tones. They move freely and progress to the harmonic tone around which they are written, for instance:

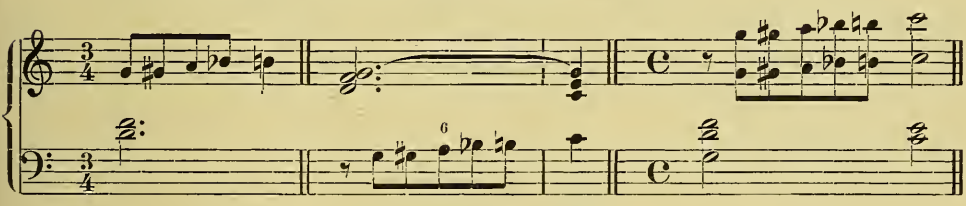


II. The Chromatic Transit (or Transition).

It differs from the diatonic transition in that it moves only in semitones.

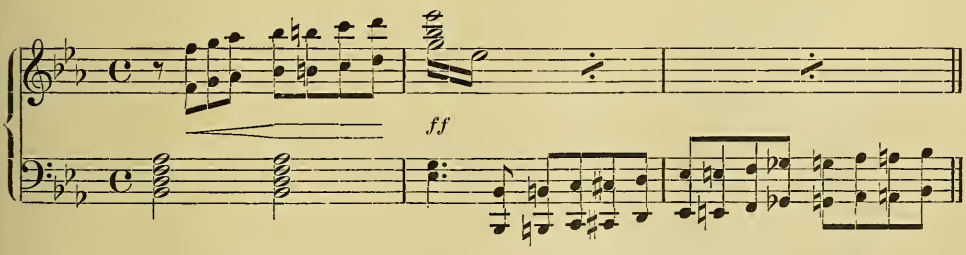


All notes marked × are foreign to the harmony.



We encounter this species mostly in Minuets, Marches and Operas. The chromatic transition appears in all parts, and its really artistic application lends to music new and wonderful charms.

From the "Flying Dutchman" by R. Wagner:



The chromatic transition here appears first in the upper part and then in the bass.

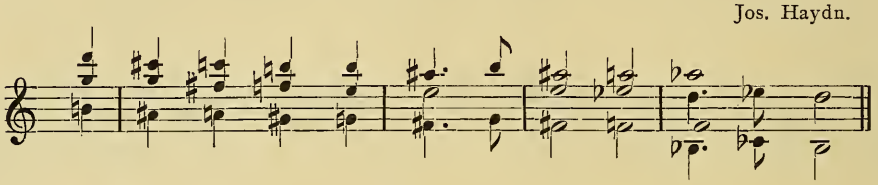
These transitions, like all part-movements, are, firstly, of melodic nature, or secondly, of harmonic character. By the use of passing-tones

there very frequently arise, diatonically or chromatically, unessential dissonances, in opposition to the dissonant chords, which are essential dissonances. In the chromatic system a figure moves mostly in the inner parts or the bass from one harmonic tone to another chromatically.

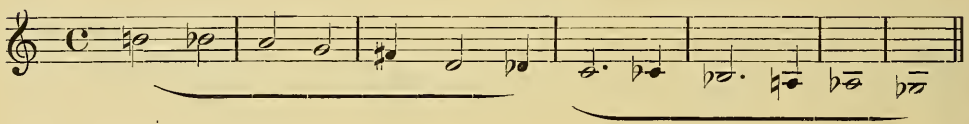
Modern musical science no longer cares if these transitions fall on unaccented or accented beats. They are free, and form in our new system a very essential feature of the harmonic embellishment-apparatus.

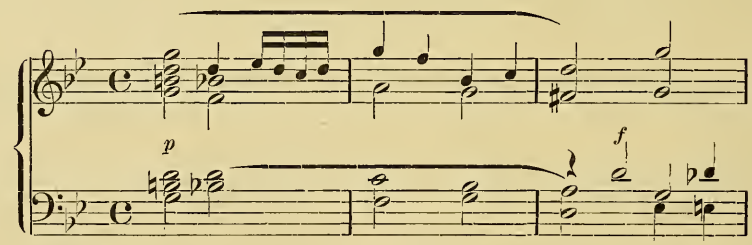
But not only do we find these transitions in the new system, our much neglected old masters have created great examples of this kind.

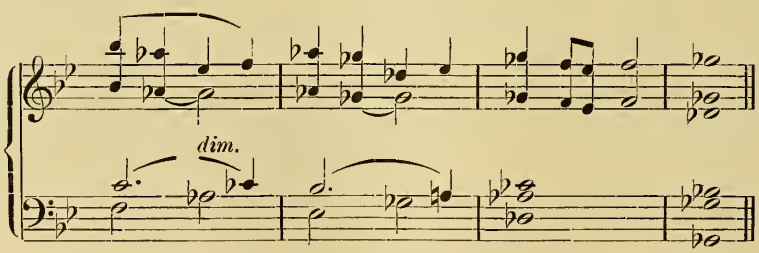
Jos. Haydn.



I quote here a few more especially interesting, important and remarkably beautiful examples of Richard Wagner:

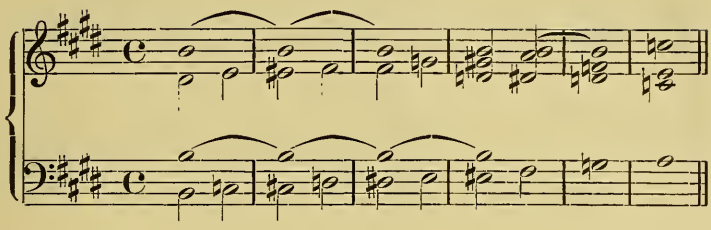




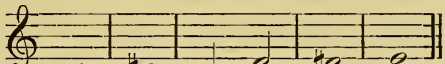


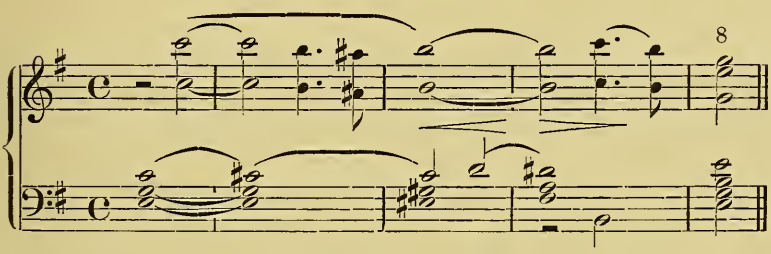
Such chromatic transitions also occur doubled. They must then progress in consonant intervals, sixths or thirds.

From the "Flying Dutchman":



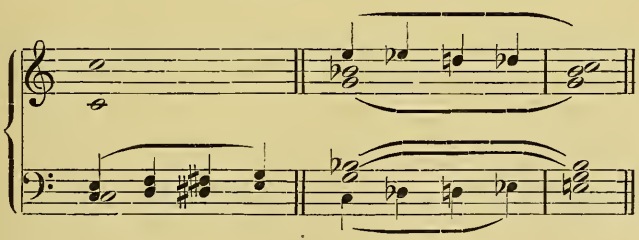
From "Tannhauser":



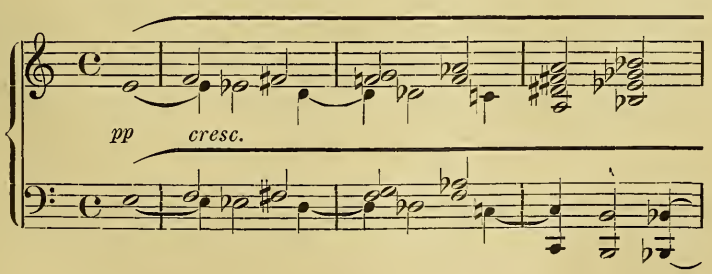


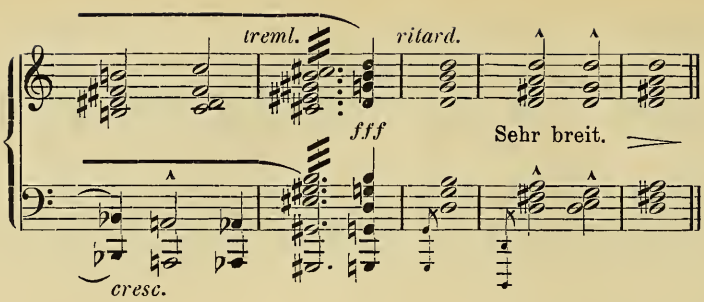
Here arises through the chromatic movement of the *C* to *C*♯ a uniquely beautiful effect, having, apparently, the character of a false relation.

Very frequently occurring chromatic double transitions and transitions in contrary motion are the following:



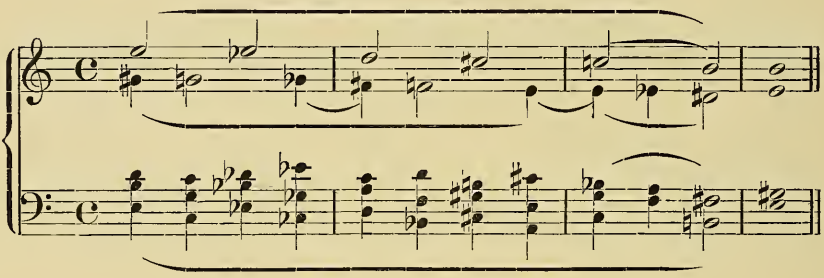
The following is an appropriate and highly instructive example:





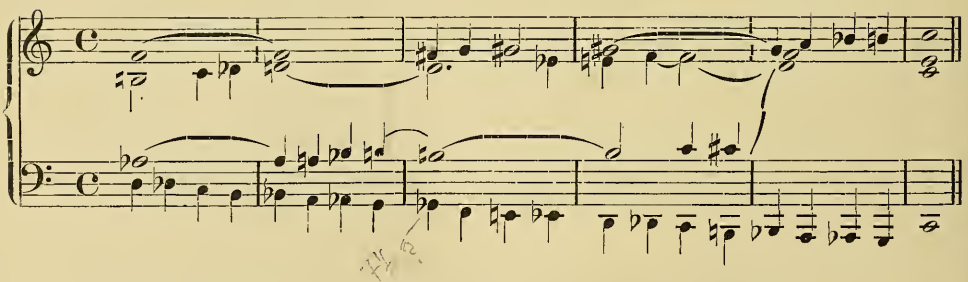
Here the extreme parts proceed in chromatic contrary motion, whereby a way for rich modulation is found, which is obvious from the example itself.

The peculiar harmony-progressions produced by these chromatic movements is instanced by the following example:



Such a sequence opens the way to many keys.

An interesting chromatic transition is the following:



(We shall return to the chromatic transit when we treat of modulation.)

(See also preliminary exercises for single counterpoint.)

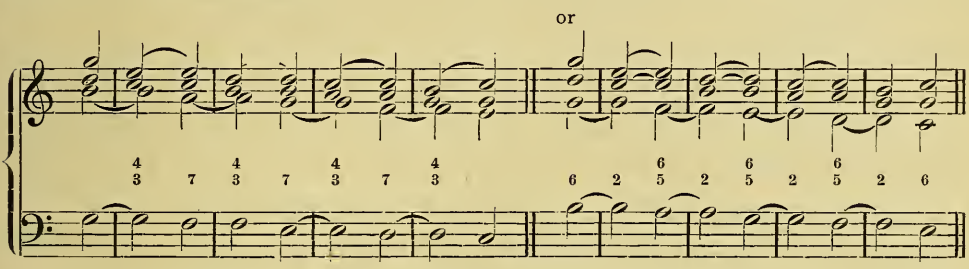
Chapter XIV.

The Sequence (Transposition of Harmonies)

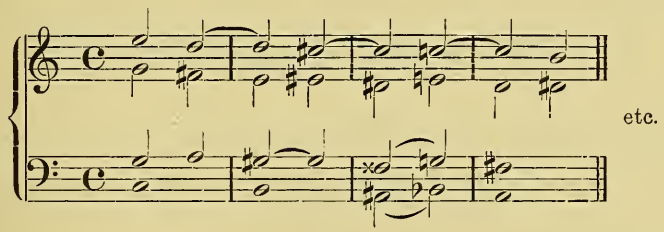
(Climax).

This is the repetition of a group of harmonies in a transposed position of parts either a half or a whole tone upwards or downwards.

Just as the connection of triads with each other leads to sequences, so does the connection of chords of the seventh and their inversions produce a similar result.



The sequence is very effective chromatically, for instance:

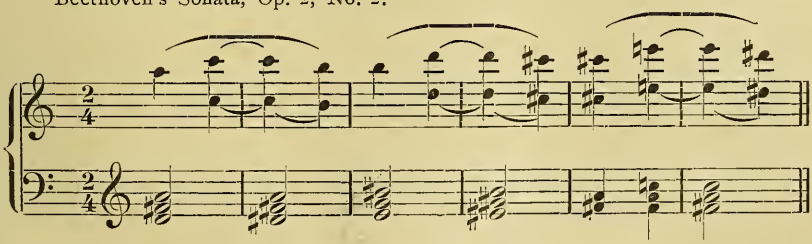


As can be seen from the last example, the chromatic sequence is extraordinarily adapted to the purposes of modulation.

Out of the sequence grew the transposition of harmonies (Climax).

It is the most powerful musical means for working up to a pitch of excitement, and finds its principal use in dramatic music. Here again examples will be our best teachers.

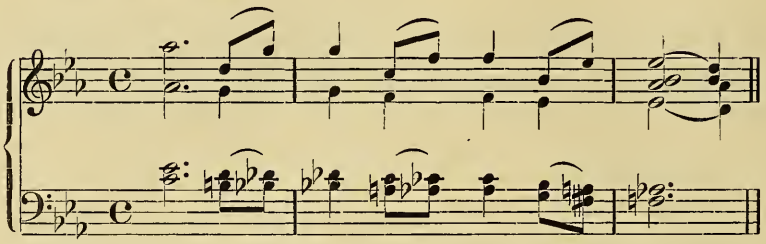
Beethoven's Sonata, Op. 2, No. 2.



This example already deviates from the old sequence by its absolute chromatic character. Moreover the transposition of the harmony bears an

entirely different stamp from the sequence. The latter bears a quiet character, whilst the former expresses passion and stress.

Beethoven's Sonata, Op. 81 a.



Here the harmonic transposition takes place in downward succession.

In using sequences caution is necessary, as it is not advisable to employ this musical means of attaining a pitch of excitement too often or to let such passages follow too closely one upon the other.

By the too frequent repetition of such sequences arises an inartistic monotony, which has been mockingly termed

"Cobblers' Patch" (Rosalia, Italian).

A composer who uses sequences until it becomes a mannerism is called

Rosalia's Lover.

(All examples with sequences should here be repeated.)

Chapter XV.

Forbidden Tone-Steps.

As long as a musician studies he should be taught to keep strictly within the existing laws.

He who, in the art of music, hast not learned to move within certain limits will never be successful in spontaneous creation.

Disregard of all rules would not lead to artistic freedom, but to unbridled indulgence, and all teaching would be made absolutely impossible. Whoever desires the total ruin of the art of music let him set its laws aside.

In school, strict schooling. In practice the artist is himself publicly responsible, and the matter assumes a different aspect. The pupil in most cases transgresses the laws through ignorance and awkwardness, but the artist does so with intention. A review of musical literature would prove this.

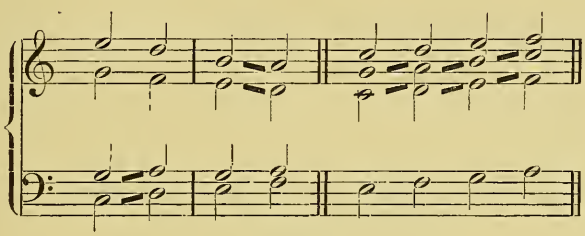
§ 1. Parallels of Octaves and Fifths.

The octave parallel should only be used in four-part vocal music when by its application no harmonic emptiness or hollowness arises. It occurs mostly as a means of strengthening vocal compositions of more than four parts and in instrumental music.

In the chorus for male voices "Wer hat dich, du schöner Wald" by Mendelssohn, the octave parallels of the 1. and 2. basses are very effective.

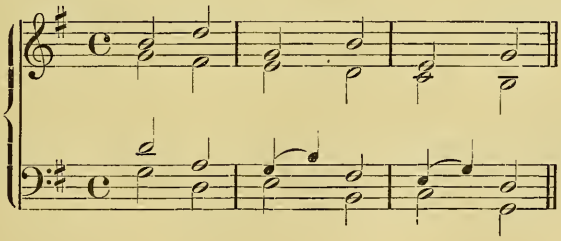
We meet with such octave parallels in compositions for the organ and piano by all masters, from Haydn, Mozart, Beethoven, down to Rheinberger, but they invariably form the strengthening of a melodic phrase in one of the parts. One should, therefore, distinguish well between vocal and instrumental music.

Parallels of fifths have very often a hard effect, especially in four part vocal music, in step by step succession. The following example shall prove this:



In many cases the avoidance of parallels of fifths is made possible without harmonic alteration by an exchange of parts.

Successions of fifths proceeding by skip movement may even, according to circumstances, be effective and can also be employed in four part compositions.

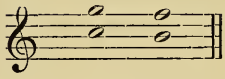


However, only the most moderate use should be made of them.

As an excellent exercise the pupil should be made to write down progressions of the triad on the sixth degree in minor to the dominant triad and back again in several keys.

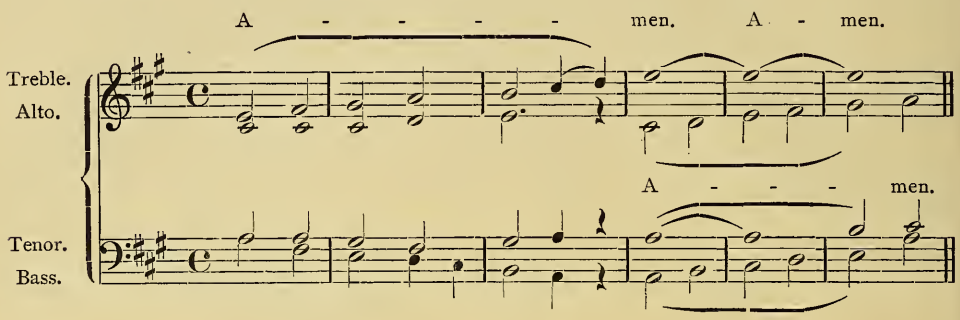
The step from the diminished to the perfect fifth leaves an unpleasant impression

while the reverse step can be brought into use without hesitation. (See Mozart-fifths.)

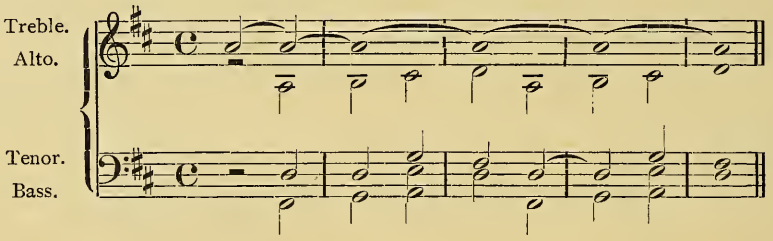


At school, and during the time of study, the rule to avoid fifths and octaves should be strictly adhered to. But the finished artist can also go his way here in fullest liberty.

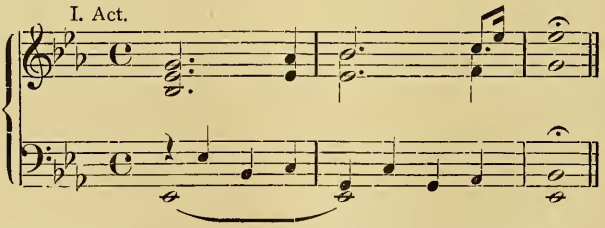
We quote a few examples of free successions of fifths:



This ecclesiastical Responsorium, if sung by a good choir, sounds sublime, and what progressions of fifths! The kind Lord did not create fifths for old Pythagoras and his Greeks alone, but also for the Christian cult. I likewise find in the following example a rare beauty of musical sound.



Who would find here, in spite of the step by step progressing fifths, an offence against the beautiful in music? Our great Wagner produced in his mystical drama "Parsifal" a really wonderful example of religious, devotional effect.



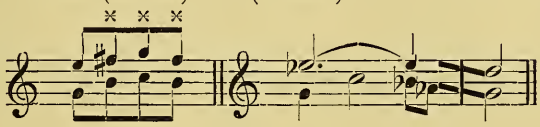
I will here only speak of two other kinds of fifths, and these are the harmonic and melodic fifths. The former can appear amateurish through

ineffective handling, but the ear must decide. The latter arise accidentally in the polyphonic working, and, as a rule, they pass by without leaving any trace. In a rhythmically similar harmonic construction the ear discovers fifths more easily than in a many-jointed, full rhythm of polyphonic character.

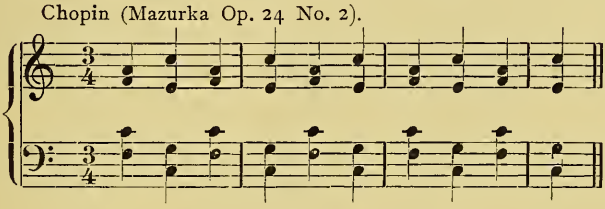
Through this it appears Marx arrived at the opinion that there exist *fifths for the eye and fifths for the ear,* an opinion which we endorse.

I add here some more examples from important works.

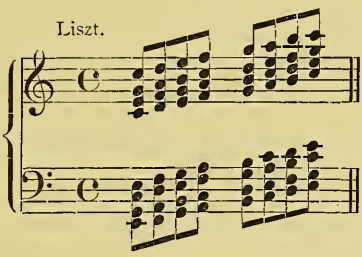
Gluck (Armida). (Alceste.)



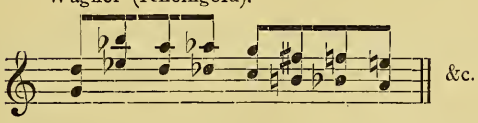
Chopin (Mazurka Op. 24 No. 2).



Liszt.

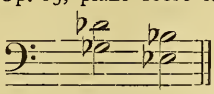


Wagner (Rheingold).

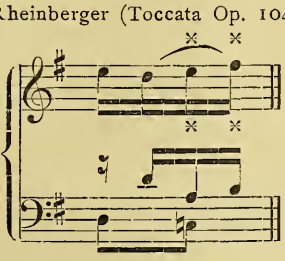


&c.

Rheinberger (Sonata for Organ Op. 65, piano score for four hands by the composer.)



Rheinberger (Toccata Op. 104).



Here are found, step by step and by skip, harmonic and melodic fifths.

As a melodic parallel of fifths the last example is very instructive, inasmuch as these fifths arise through the thematic working.

Musicians who follow the study of counterpoint are referred to Rheinberger's Op. 104, as well as to all his compositions.

What, then, have we to remember in regard to forbidden fifths for study and for practice?

One should never pour away both water and child from the bathing tub, nor set aside rules for study, which in a pedagogical sense have been proved valuable.

For practice, the saying of Berlioz shall content us:

"That which sounds well is good and justified".

For study the law shall be in force up to the point when the pupil begins to feel intellectually free, enabling him to compose consciously and with intention, from the time he shows his awkwardness has left him.

To treat on successions of fifths as

characteristic means of expression

in music is out of place here.

But if this kind occur in our uncommonly rich musical literature the student should always strive to make clear:

1) Why the composer offended against the law, and

2) Whether the offence produces a good or bad effect.

§ 2. Inadmissible Interval-Steps.

Here we deal especially with vocal music in four and more parts. Instrumental music is not considered in this or in the preceding paragraphs. What is law for us in vocal music is disregarded in instrumental music, and that with full legitimate right.

Musical literature is the best defender of this assertion.

On the whole one should not use augmented tone-steps without necessity, as they always produce a forced, unnatural sound-effect. This can best be seen in the harmonising of the harmonic minor key.

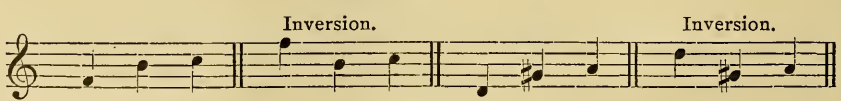
To the inadmissible tone steps belongs

A. The Tritonus (Tritone 4th).

This is the step from the 4th to the 7th degree of the scale and forms an augmented fourth. Thus in C major it would be *F-B* and in A minor *D-G♯*.

As early as the time of Guido of Arezzo the unnaturalness of this tone step was felt, and instead of *F-B*, *F-B flat* was substituted.

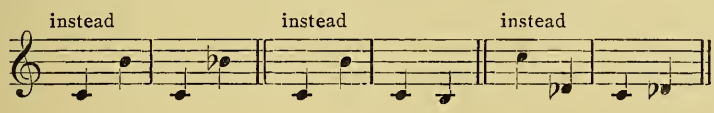
It is best to use the inversions of such intervals, for instance:



It is the same with all augmented tone-steps. The modern art of vocal music, however, has also in this domain made it possible for the artist to compose with more freedom, but the non-observance of what has been remarked should at least be supported by reasonable motives.

B. The leap to the major seventh

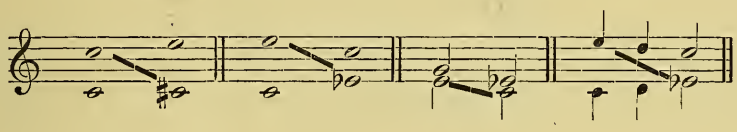
is difficult to sing, and in effect disturbing and unbeautiful. One uses for this the minor seventh or the inversion of the major seventh, that is, the minor second upwards or downwards. Musically expressed:



In vocal soli with accompaniments this tone-step can also be used if, as a natural necessity, it be required by the harmony.

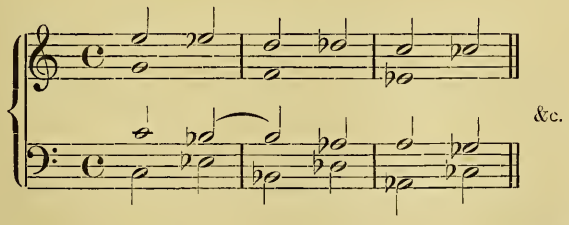
§ 3. False Relations (Querstand).

By false relation is understood the harmonic contradiction of two voices, which arises through the chromatic raising or lowering of a tone in another part in the same position, or in the octave, for instance:



The first three false relations are brought about directly, the last one is delayed. In these forms they are absolutely unbeautiful and offend the ear.

In pure diatonics false relations are impossible, they arise only chromatically, as the following example shows:



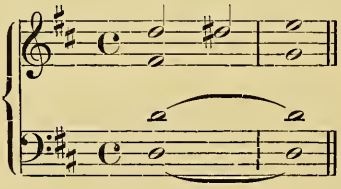
(The pupil should continue with this succession of chords until he reaches the starting point: C major.)

A false relation arises in every bar here between the treble and bass. If, though, we look at the complete sequence we find absolutely nothing unpleasant: on the contrary the false relations give the whole a certain

sharpness and pleasant piquancy. The harmonies following one on the other are not related, which tends to the inference that closely connected false relations produce a bad effect, and consequently only distantly-connected false relations should be used. It should therefore be noted:

1. In two and three part compositions false relations should be avoided.
2. In compositions of four or more parts false relations are of great effect, if used under proper conditions, and between distantly related harmonies.
3. Instrumental music is not affected by this, it goes with full freedom its own way.

Hundreds of examples might be quoted from classical works, but we abstain from this, as it is presupposed that during the time of study the teacher will draw the pupil's attention to such occurrences. The long, fierce, and useless controversy about this subject is best settled by the student keeping with all strictness to the "master rule". The selfcreating artist should not let himself be influenced by the petty remarks of criticism in regard to overstepping the law where he finds it necessary. For our own part we are acquainted with melodic false relations. The most beautiful example of a melodic false relation is contained in the "Don Juan" Overture.



D-D♯ as a passing note of the nature of a false relation.

Chapter XVI.

The Organ point (Pedal point).

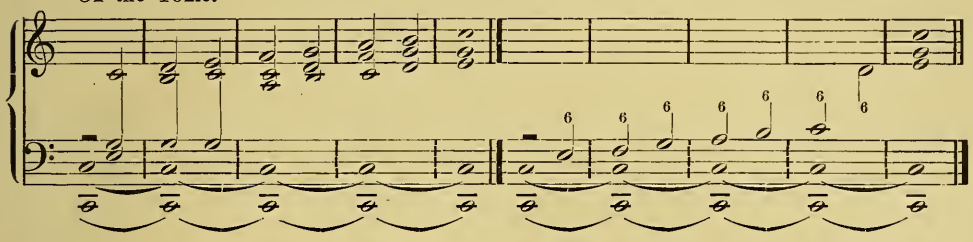
We understand by this a prolonged tone in the bass over which a series of chords pass, several being foreign to it, but forming together a musical thought or figure. We find it in Drama, Symphony, Sonata, and, as a rule, in the Fugue. Sometimes it occurs at the beginning or finish of a composition, but in the Fugue always at the finish.

Here some works may be mentioned where it appears at the commencement: Bach's Matthäus Passion, Beethovens Sonata, Op. 28, Overture to "Rheingold" by R. Wagner, Brahms' C minor-Symphony &c.

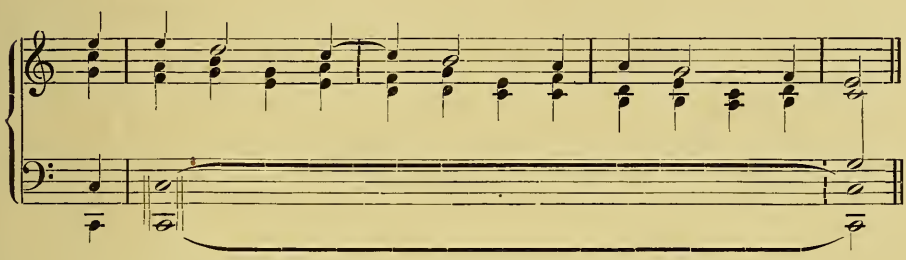
In that which follows we will show the principles which decisively guide the hand of practice in the use of the organ point up to the present.

1. All harmonies of the scale are used on the organ point.

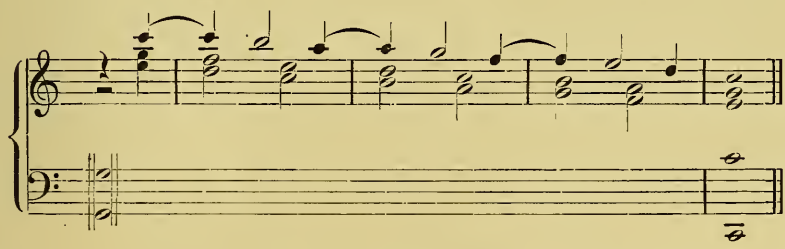
On the Tonic.



On the Tonic.



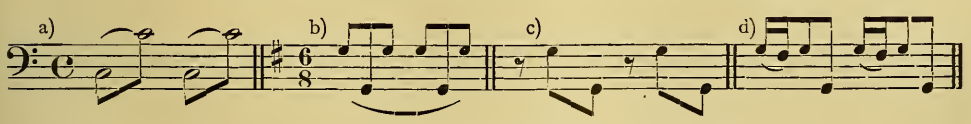
On the Dominant.



In the above examples the organ point note consists of a prolonged tone, but it can also be interrupted. These interruptions are of diverse kinds:

1. The organ point note will remain unaltered except for rhythmical purposes.
2. The organ point note is repeated or embellished in the octave.

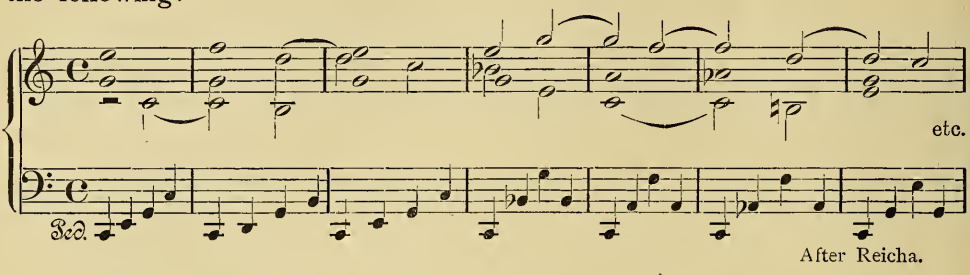
In old church music we frequently find the following:



The figure a was called Brillen-bass (Spectacle-bass) in former times. At b the organ point moves in the octave, at c it is interrupted by quaver rests, and at d it is ornamented and appears in mixed motion. All such

possible interruptions, embellishments &c., it is impossible to quote here: what is wanting the private study of the pupil should supply.

One interruption of the organ point note especially to be observed is the following:

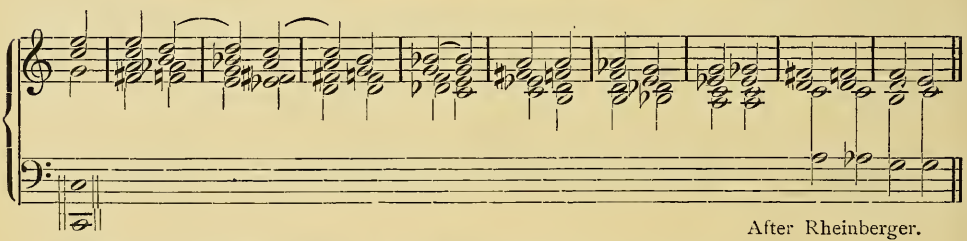


After Reicha.

In this example we find the organ point note as the first crotchet in each bar; all the other tones are broken chords, but these must always stand in a consonant relationship to the harmony group, as is particularly to be observed in this case.

The organ point can occur on each tone of the key, but it is only transient except when on the tonic and dominant.

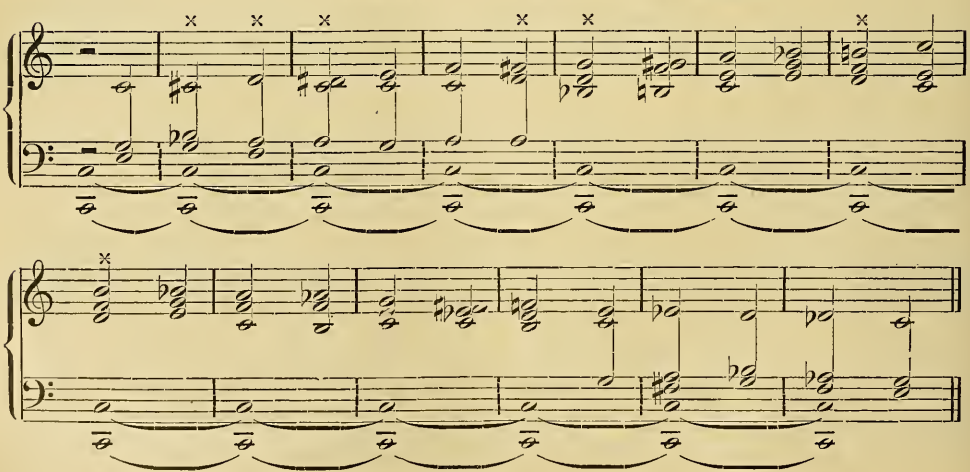
2. All Harmonics of the Major-Minor and Extended Minor Systems.

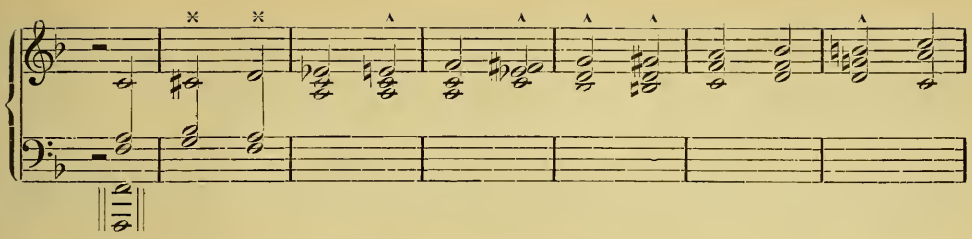


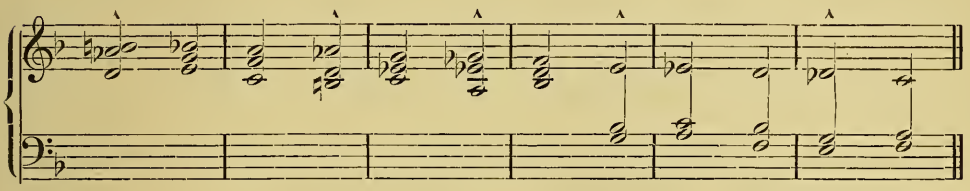
After Rheinberger.

Here we meet with a total mixture of major and minor.

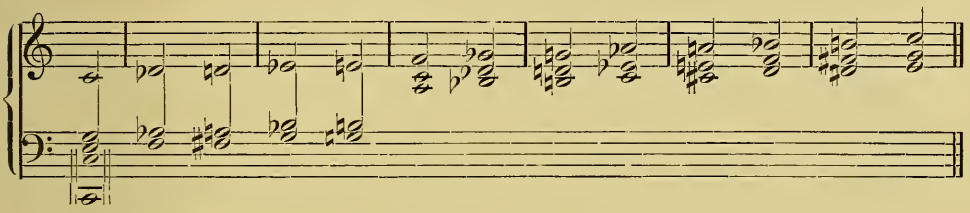
3. The Chromatic Scale on the Organ point.



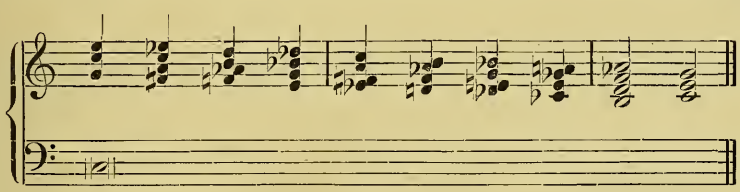




After Rheinberger.



All Diminished Chords of the Seventh in chromatic succession.



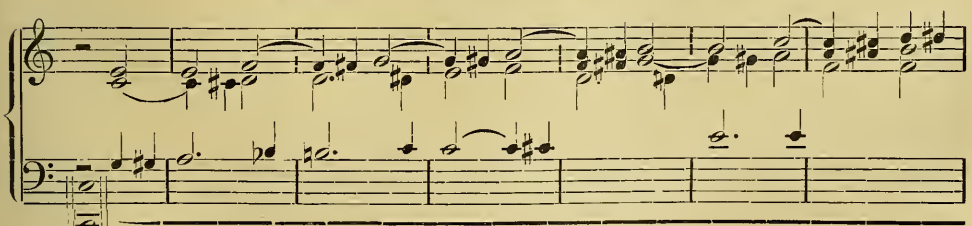
After Dehn.

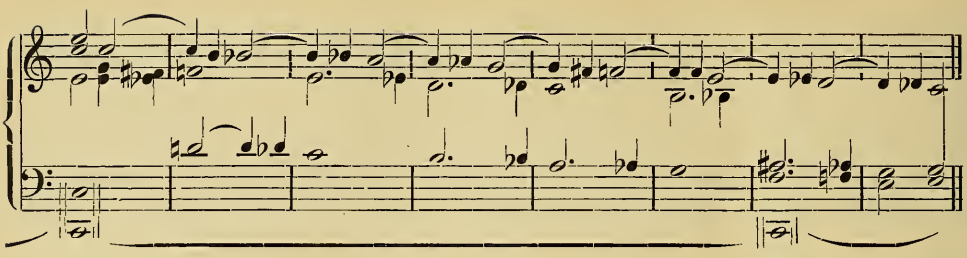
4. Diatonic Transitions on the Organ point.

These have principally found application in church music, and therein they shall reign to the present day, as chromatics are here to be excluded. (See example of Reicha in Suspensions on an Organ-point.)

When making use of the sequence on an organ point we meet with these transitions most frequently.

5. Chromatic Transitions on an Organ-point.

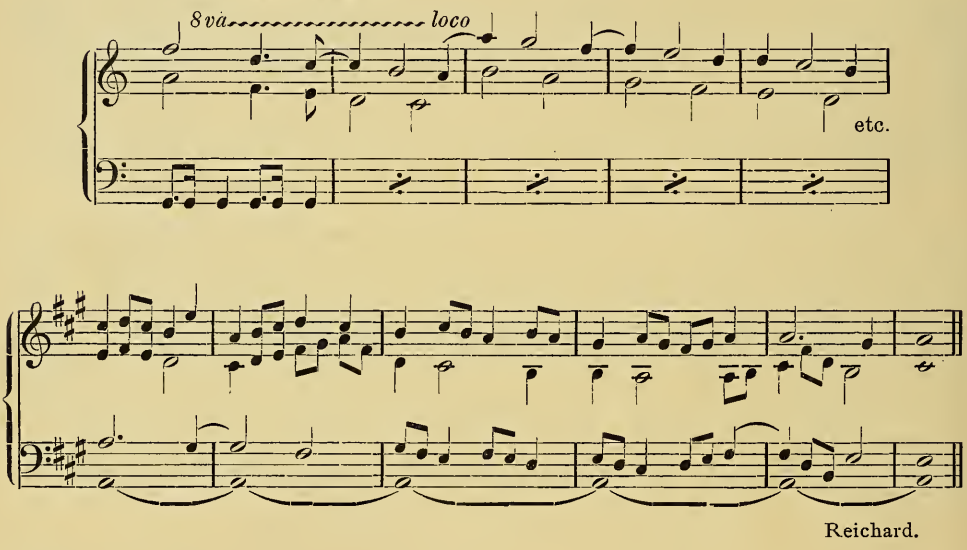




The chromatic transitions are here distributed in all parts.

6. Suspensions on the Organ-point.

From "Das Rheingold".

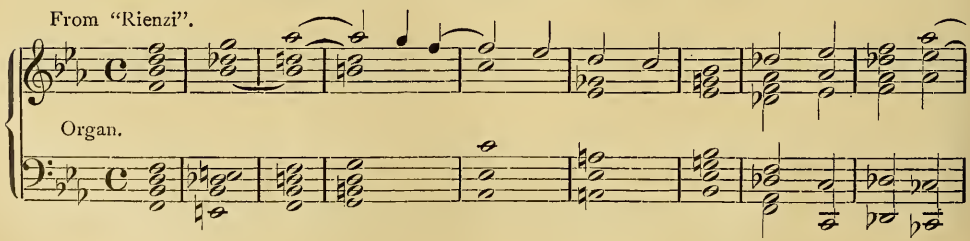


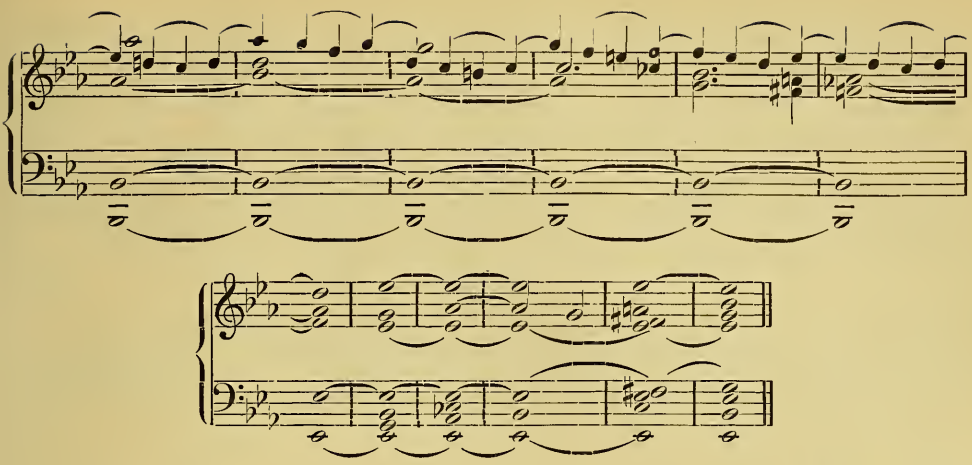
Reichard.

The latter organ-point contains sequences and suspensions. Modulations occurring on an organ-point are always transient.

7. Sequences, Suspensions, Diatonic and Chromatic Transitions together.

From "Rienzi".



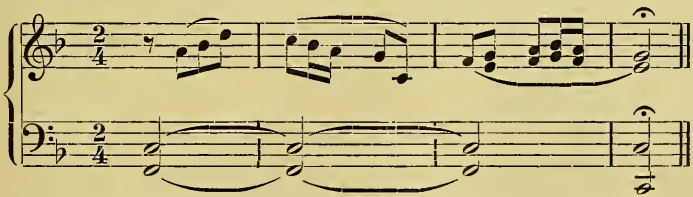


In the tenth bar we meet with an organ-point on the dominant with sequences, suspensions, and chromatic transitions. In the sixteenth bar an organ-point appears on the tonic with a broad modern cadence and a suspension. The E flat entering in the bass (16th bar) is an anticipation.

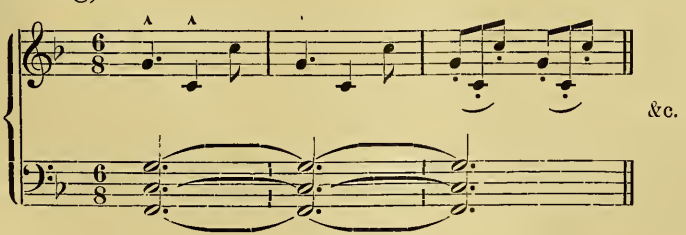
We now refer to an organ-point contained in the "Meistersinger". (Piano score, page 17, last line but one, last bar and the following.) On it there are to be found all conceivable chromatic transitions, sequences, suspensions &c.

The greater part of the waltz in the "Meistersinger" is written on a single and double organ-point. Hitherto we have dealt with the single organ-point note, but the same can be doubled, by which we obtain the *double organ-point.*

If the organ-point note occur again in the octave the organ-point remains single. The double organ point must have two different prolonged tones in the bass. It is chiefly found in pastoral music. Here are shown examples from Beethoven's "Pastoral"-Symphony.

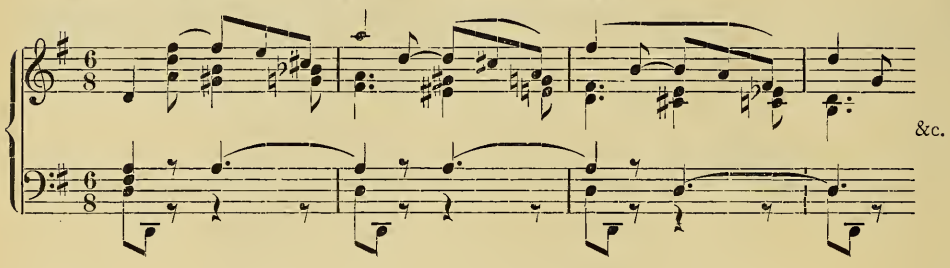


In the same symphony we even meet with a triple organ-point (Shepherd's song).



Altogether this symphony is greatly to be recommended for the study of the organ-point.

Pastoral Sonata by Rheinberger (From the closing fugue).



The organ-point tones are here interrupted, and we find, in addition, a double chromatic transit. The technical treatment of the organ-point finds its complete solution in the system of the fugue, which, however, does not belong in this place.

From what we have seen up to now it will be gathered that in the organ-point accidental harmonies form themselves, the existence of which has hitherto not been mentioned. Such chords are called chords of the organ-point.

A retrospect of the examples put forward teaches us the following in regard to the organ-point:

1. The beginning and the end of it fall on harmonies which belong to the organ-point tone.
2. It can enter at the commencement or close of a composition.
3. A group of harmonies standing on a tonic organ-point can, in certain cases, also occur on a dominant organ-point.
4. The organ-point note can be broken, embellished and interrupted. The various examples given show the manifold applications of harmonies in the organ-point.

We have learnt besides:

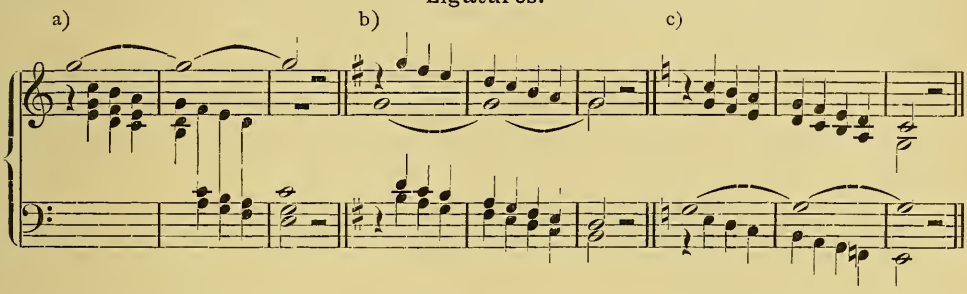
5. The nature of the double organ-point and of
6. The existence of chords of the organ-point.

There is still to be remarked, in conclusion, that an unharmonized melodic figure can also be used on an organ-point. We here direct attention to Beethoven's "Leonora" overture, where the chief theme of the allegro is majestically built up on an organ-point prolonged through 32 bars. The first four bars are without any harmonic embellishment whatever.

Alberich's "Curse-motive" in "The Rhinegold" is placed on the organ-point tone *F*♯ without any harmony for four bars, only in the fifth bar does the harmony enter.

The stationary tones in the other parts still remain unmentioned. They are also called by some theorists organ-point notes, which, however, is decidedly wrong. They are simple ligatures. This assertion is supported by the musico-historical use of the organ-point, and still more so by the very same theorists calling an organ-point tone strengthened in the octave only a single and not a double organ-point.

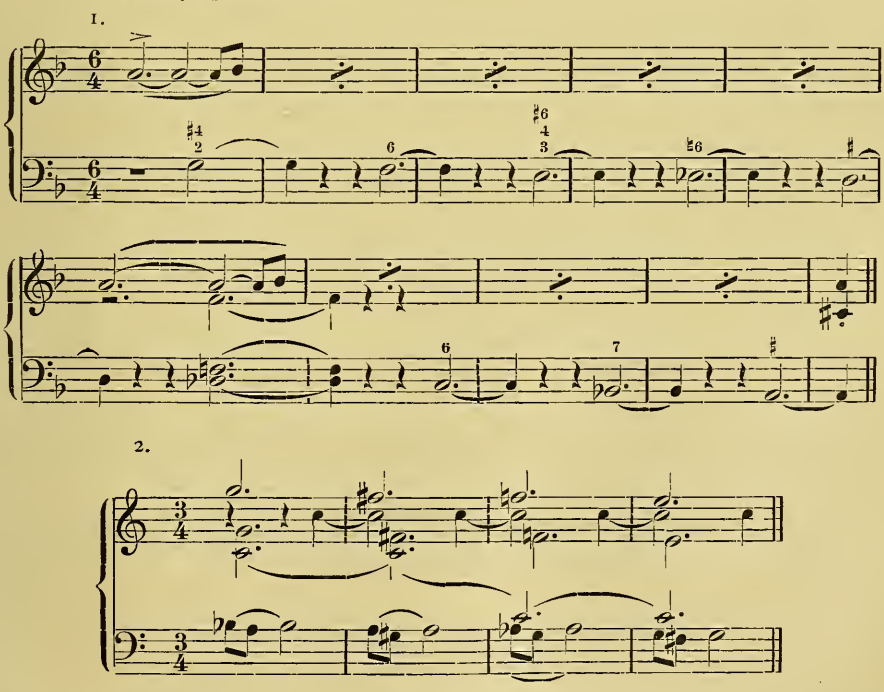
Ligatures.



At a) the ligature lies in the treble, at b) in the alto, and at c) in the tenor.

Examples.

From the "Flying Dutchman".



In the first example the ligature is in the upper part with a little ornamentation. In the second the ligature is in the inner parts.

Chapter XVII.

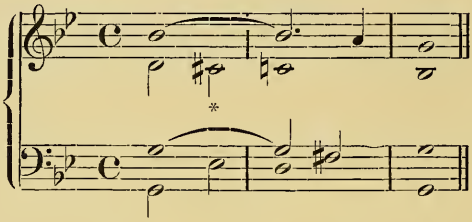
The Chromatic Scale.

At the commencement of this work we gave the chromatic scale according to Marx and Dehn.

In the notation of chromatic tones the following must be observed:

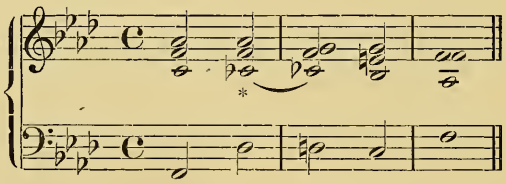
1. That, in general, ascending tones are written with a ♯, descending tones with a ♭, especially if the chromatic tones be melodically conceived.
2. But harmonically conceived the chromatic tones of the nearest key to the one in use are written, for example:

In G minor the *C*♯ of the key lies nearer (through the dominant) than a D flat.

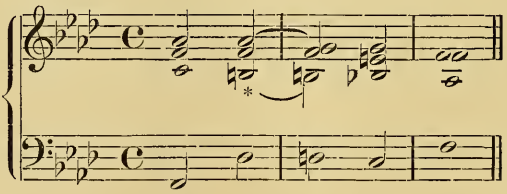


Orthographically a D flat would be bad here on account of its entirely different sense with regard to modulation than the *C* sharp. D flat would point to A flat major, whilst *C* sharp is a correct chromatic transit tone. Therefore the chromatic signature closest related to the key through its three principal scale degrees should be chosen.

The following, to give one more example, would be wrong:



This C flat points to G flat major or E flat minor, therefore ♭ should be substituted.



This orthographical method of writing is in accordance with our Major-minor and Enharmonic systems. The C flat possesses leading and modu-

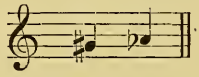
* This ♭ is really to be conceived as the leading-tone of the dominant of the dominant.

latory character, but the ♭ indicates the harmonic return to the dominant through the dominant-dominant. In giving instruction this notation must be carefully looked to.

Chapter XVIII.

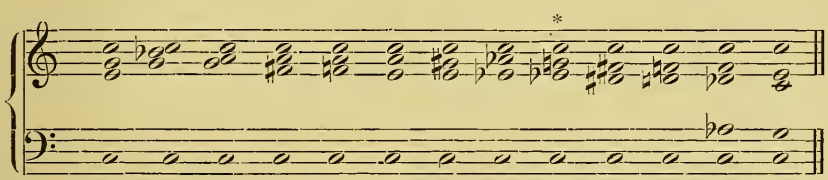
Enharmonics.

By enharmonics one understands identical sounds with a different notation.

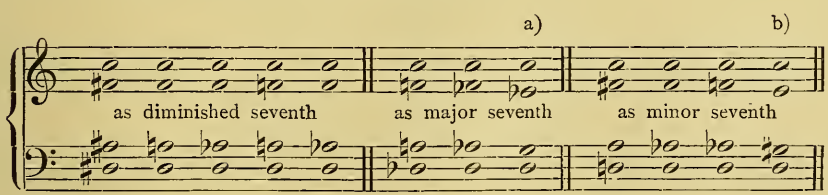


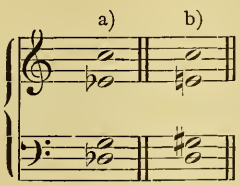
Here is the same sound with different notation, consequently bearing in harmony also a different meaning. This ambiguity of a tone we call enharmonic change. Every tone lends itself to several meanings. With the tone of *B* we will operate as follows, Let us imagine *C* as octave, second, third, fourth, fifth &c., and we shall find that through these different interpretations of the tone *C* different harmonies arise, as shall be proved by the following scheme, which consists in this, that we give to the tone *C* when tracing our chords a different interval meaning every time, and therefore every time we regard it as enharmonically different.

1. If the tone be conceived in the octave, these chords are obtained:



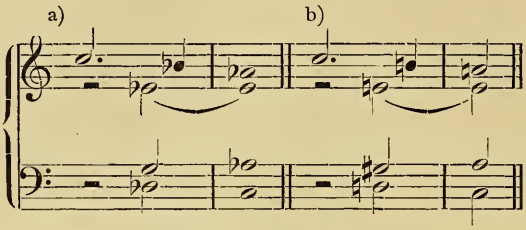
2. The tone *C* conceived as a seventh:





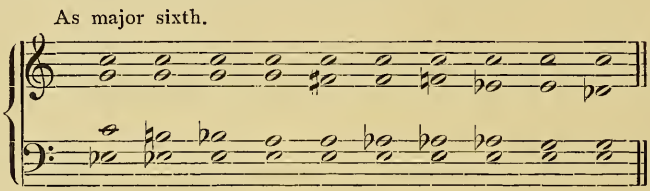
*) This combination of chords is based on suggestions of the great master Joseph Rheinberger.

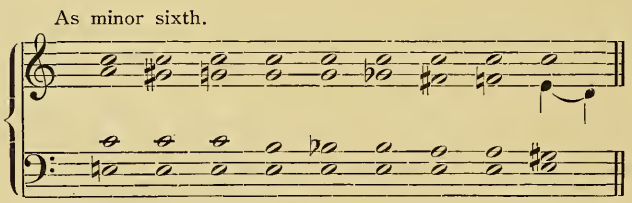
It is obvious that hereby we gain not alone our complete fundamental chords with their inversions, but also all suspended chords, &c. In the last example the two similarly sounding harmonies are interesting on account of their value for purposes of modulation.



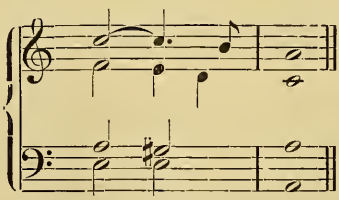
This example is very instructive for our modern theory of modulation. At a) the *E* is conceived as a major seventh, at b) as a minor seventh.

3. The tone *C* conceived as a sixth:

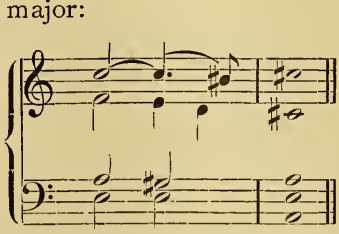




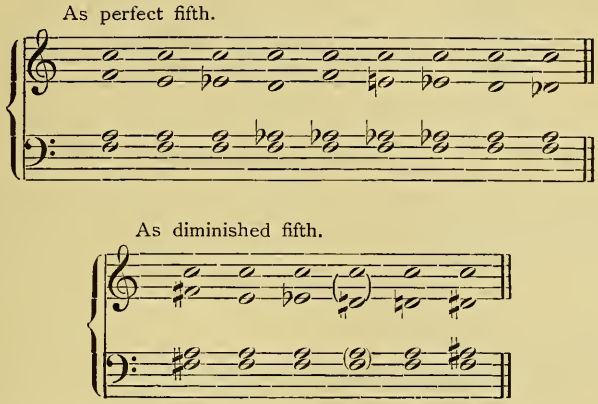
The last tone combination, again, is very instructive. Its general resolution would be:



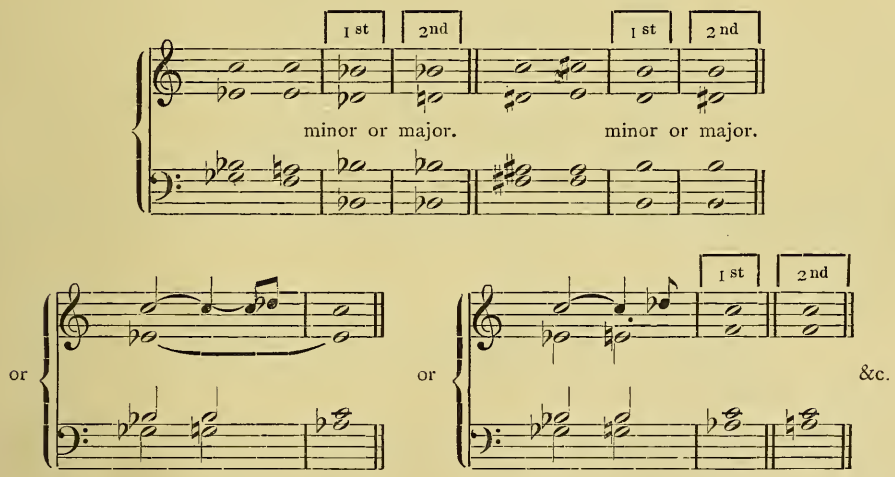
The double character of the *C*, which can also be conceived as *B*♯, leads us, however, to A major:



4. *C* conceived as fifth:

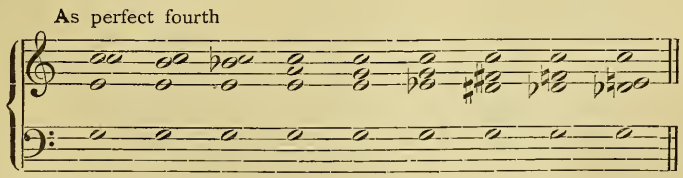


Did we conceive *C* as the augmented fifth of F flat, we could only obtain the same chords (enharmonically) which we gained from it as a minor sixth. The last chord is enharmonically identical with the chord of the $\frac{6}{4}_{3}$ on G flat in *B♭* minor and D flat major. In the course of a composition the natural resolutions of both chords would be:

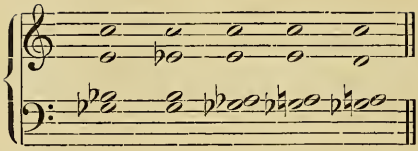


One perceives from this how closely the keys are brought together by our harmonic system and how simple are the means of natural and easy modulation in the apparently most distant directions.

5. *C* conceived as fourth:

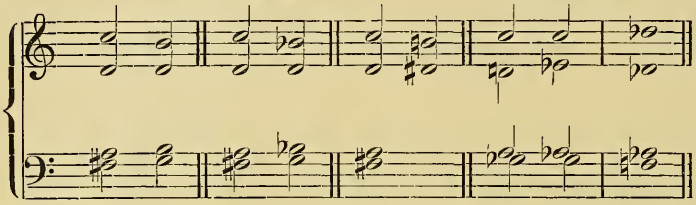


As augmented fourth (Tritonus).

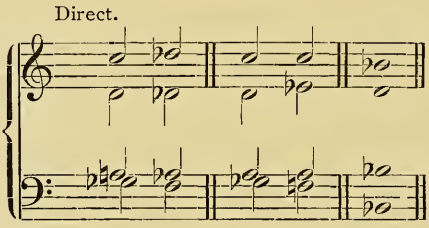


The last chord, which, judged by its sound, corresponds completely with the chord of the $\frac{6}{5}$ on *F♯* in G major or G minor—on *F♯*—is enharmonically interesting in so far as it does not lead us to these keys but into quite remote directions

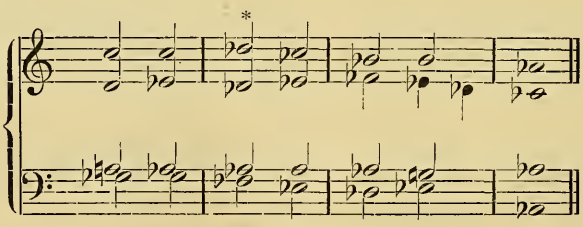
In its fundamental form. Enharmonically.



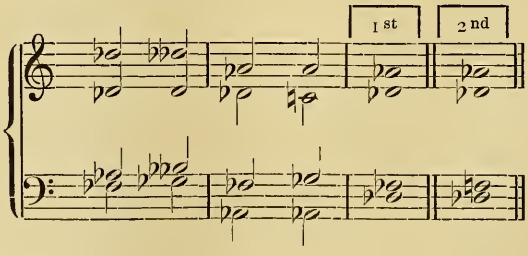
Direct.



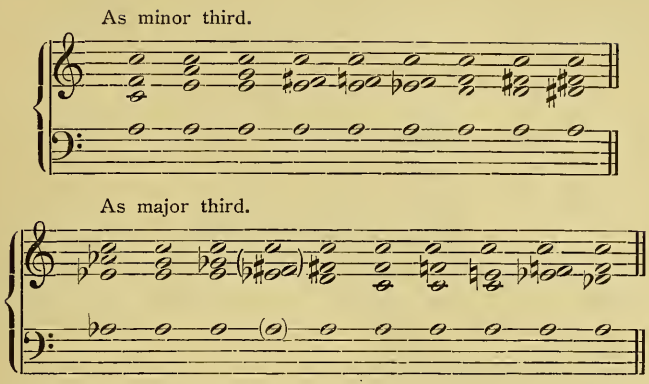
This chord, belonging by natural right to *G*, can also lead us to A flat minor in the quickest possible way.



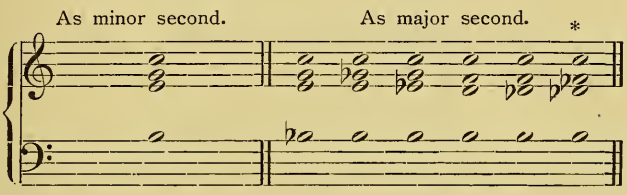
From * we could also get to D flat (C sharp).



6. *C* conceived as third:



7. *C* conceived as second:



From the foregoing the wealth of material at the musician's command for chord combinations is evident.

The tone *C* can also be interpreted as *B*♯ and D double flat and in the same way every tone is capable of more than one interpretation.

Every Triad is ambiguous.

The major triad on *C*, conceived as tonic triad, belongs to C major, as dominant triad to F major or F minor, as under dominant triad to G major, and as parallel to A minor or E minor.

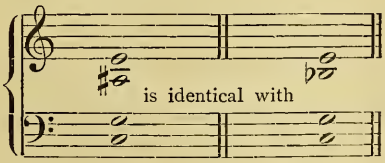
The major triad on *C* can also be taken as the *B*♯ major triad and in this case becomes the leading tone to *C*♯ etc.

Every Chord of the Seventh is ambiguous.

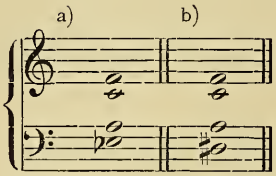
Thus the chord of the dominant seventh *G-b-d-f* can be taken as *G-b-d-e*♯. The talent to mentally apply enharmonic meanings to tones and that quickly is a powerful aid in the spirit of modern art. A thorough familiarity with this skill alone will enable the musician to rise above the commonplace and create original music.

Identically sounding Enharmonic Chords.

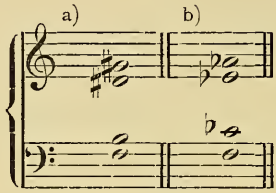
These chords, which we gain through the extended minor system, play a very prominent part, for example:



Both chords sound like the chord of the Dominant Seventh in *F*. But the first chord suggests a resolution in E minor or E major, the second to F major or F minor.



Both chords sound like chords of the second. A resolves in B flat major in the chord of the sixth on D flat, but *b* resolves in the major upper dominant in A minor: *e-g♯-b-e*:

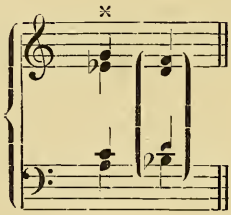


a) belongs to the extended minor system (Tristan Harmony),

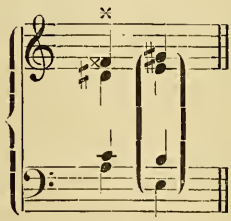
b) we find in G flat major and E flat minor.

Many such enharmonic chords arise through a free (melodic) orthography.

Karl Kliebert forms in his op. No. 2, a chord which sounds identically with



but he uses the following orthography:



by which he arrives at a striking resolution in E major.

(We shall return to this chapter when treating of "Modulation".)

Chapter XVIII.

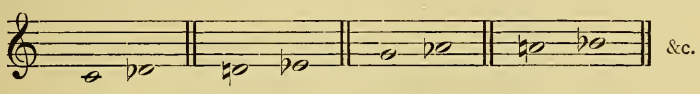
Leading Tones.

(As a preliminary study to "Modulation".)

The best way to clearly comprehend the relationship between tones, chords and keys is to consider every tone as a leading tone. For the theory of modulation this method of procedure is of great importance.

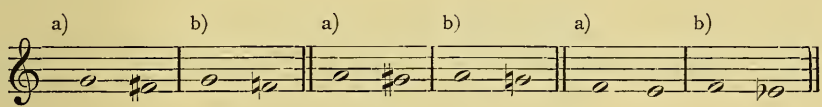
Every tone has double leading character:

a) in upward progression and therefore always in the nearest chromatic tone, for instance:



If we call Enharmonics to our aid here we are led to the following result:

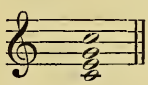
b) in downward progression every tone possesses double leading character, and thus the tone descends either a half or a whole tone, for instance:



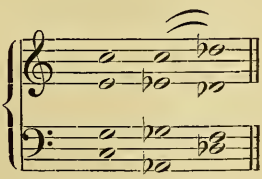
That the leading tone always receives a different signification as a chord-interval with each resolution is perfectly self-evident.

We therefore can conceive every tone in every chord as a leading tone in its double bearing upwards and downwards.

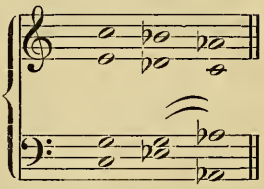
As an example we will use the C major triad.



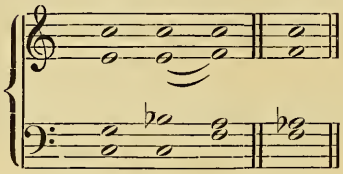
C as leading tone upwards takes us to D flat major.



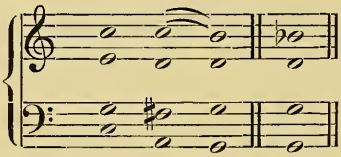
G as leading tone upwards takes us to A flat major.



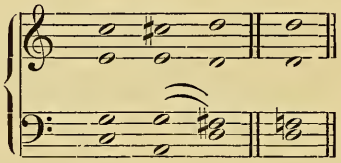
E as leading tone upwards takes us to F major or F minor.



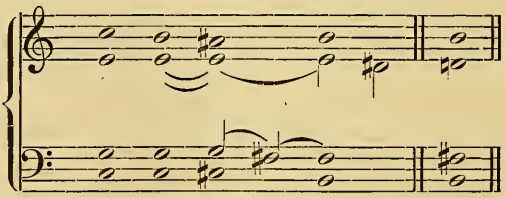
C as leading tone downwards takes us to G major or G minor.



G as leading tone downwards takes us to D major or D minor.



E as leading tone downwards takes us to B major or B minor.



The student should make such experiments with all major and minor triads.

Chapter XIX.

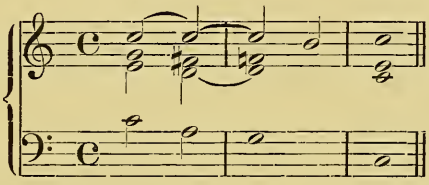
Modulation.

Modulation is understood to be the art of passing from one key to another in a quick, natural and harmonious way. It arises as soon as a foreign harmony enters the key.

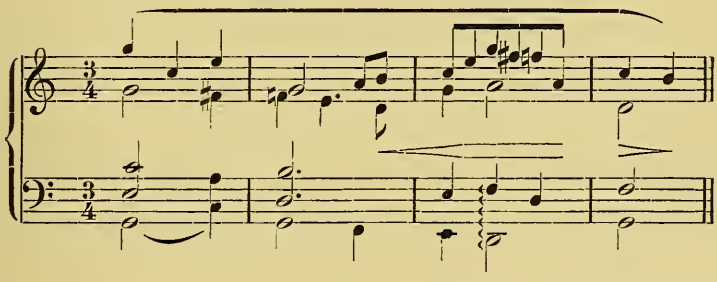
Modulation is either transient or stationary.

All modulating chords are to be conceived as chromatic chords, because they introduce tones, which are foreign to an accepted original key.

It is transient modulation if the foreign harmonies appear in passing and progress after a short duration to the harmonies of the reigning key (original key) again.



From "Die Meistersinger".



These modulations are transient. We also call them "Ausweichung" (turning aside or giving way.)

Stationary modulation demands more attention and a deep study of the subject. It consists in leaving one key altogether and passing into another without returning to the former. The closer two keys are related to each other, the simpler is the modulation. The more tones two keys have in common, the closer is their degree of relationship.

(Before progressing any further all keys should be compared with each other and the tones they possess in common sought out.)

The best course for this is to search for the tones common to two keys, namely:

The original key and the key into which one intends to modulate. We arrive in this way at the two principal kinds of modulation.

a) direct and b) indirect modulation.

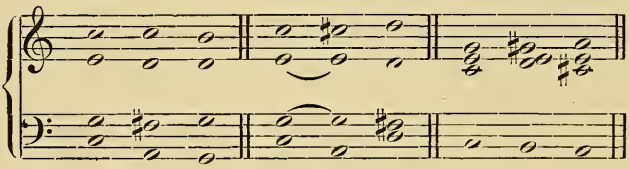
It is of vast importance that the student as soon as the modulating chord is sounded, sets his whole mind thinking on the signature of the key to which he intends to modulate. We will search for the means of modulation in the following:

The first means of modulation is

1. The chord of the dominant seventh of the key into which it is desired to modulate, that is, if the tonic triad of the original key has a tone in common with the chord of the seventh (or one of its inversions) of the key to be modulated into. By this we arrive at direct modulation.

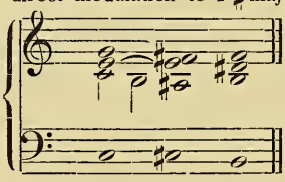
Scheme from C major to the side of the sharp (♯) keys.

From *C—G.* From *C—D.* From *C—A.*



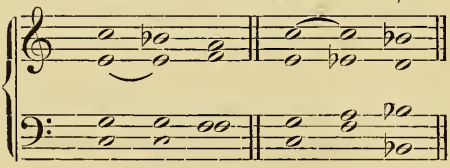
Direct modulation to E major is impossible.

From *C—B* direct modulation to F♯ major is impossible.



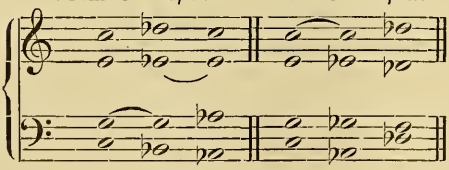
From C major to the side of the flat (♭) keys.

From *C—F.* From *C—B♭.*



Direct modulation to E♭ major is impossible.

From *C—A flat.* From *C—D flat.*

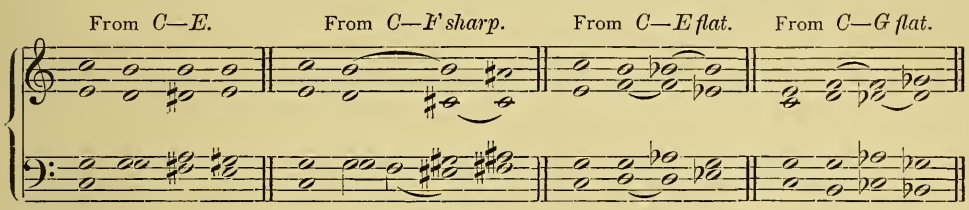


Direct modulation to G flat is impossible.

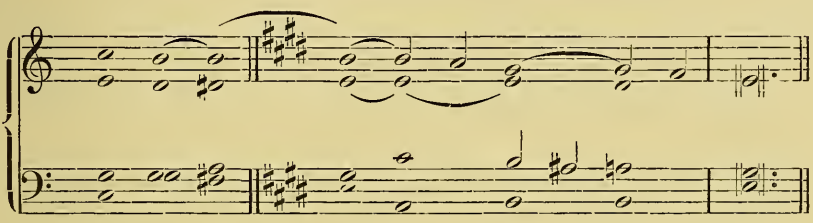
The pupil is

1. To point out all tones common to the foregoing modulations.
2. To play these modulations in all keys.

2. As a second means of modulation we use the two chords of the seventh, their inversions, and the dominant triads of the original—and modulating—keys in order to pass into those keys which in the foregoing examples we could not reach by direct modulation.



The pupil must now add to every modulation a corresponding cadence to confirm the key of modulation.



The pupil should modulate with the same chords

Sharp (♯) keys	Flat (♭) keys
From G major to B major	From F major to A major
From D major to F♯ major	From B♭ major to D major
From A major to D♭ major (C♯)	From E♭ major to G major
From E major to A♭ major (G♯)	From A♭ major to C major
From B major to E♭ major (D♯)	From D♭ major to F major
From F♯ major to B♭ major (A♯)	From G♭ major to B♭ major.

The pupil should write down such schemes of all modulations which have occurred up to now.

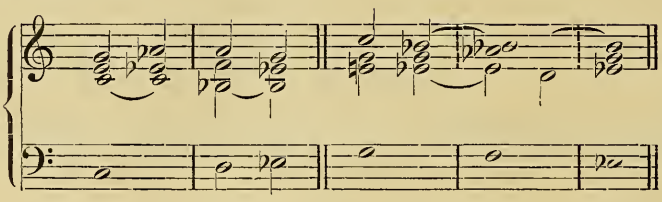
If the two dominant harmonies have not a tone in common another and intermediate harmony possessing the requisite relationship must be found in the original key, or in the key to which it is desired to modulate.

We will modulate for example from C major to E♭ major with two harmonies possessing one tone in common.

C d e f g a b c
c d E♭ f g a♭ b♭ c.

These two keys have 4 tones in common, of which two, *c* and *g*, lie in the triad of *C*. The triad of *C* and the chord of the seventh on *Bb* in *Eb* have no tone in common. Therefore another of the harmonies

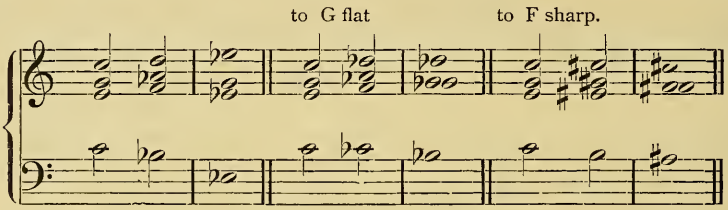
belonging to the key of E flat having the tone *C* or *G* in common must be found, for instance:



Here we have intermediate or indirect modulation (Natural modulation).

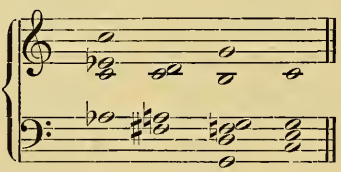
Non-intermediate (Extraneous) modulation plays a great part.

It consists in introducing, in its original form or one of its inversions, the chord of the seventh of the key into which it is intended to modulate, without taking into consideration the existence of tones in common



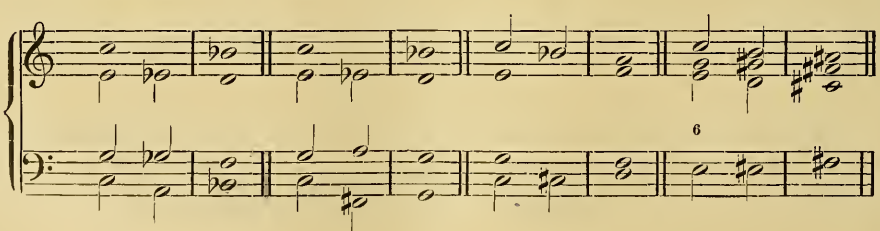
Extraneous modulation very frequently causes a complete breaking up of the harmony, for which reason all harshness must be avoided.

Mozart gives us a beautiful example:



The less harmonies used in modulation, the greater the effect. This assertion is best proved in Richard Wagner's works. None of his predecessors developed the modulatory element in such ingenious ways as he.

3. Introduction of the doubly diminished chord of the seventh of the key into which it is intended to modulate. Here is meant the doubly-diminished chord of the seventh of the simple minor system, which leads to major and minor, for instance:



The final harmony of each of the above modulations can be either major or minor.

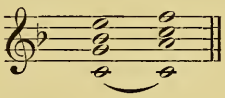
4. Modulation through the Enharmonic System.

Here the whole system of Enharmonics should be gone through again.

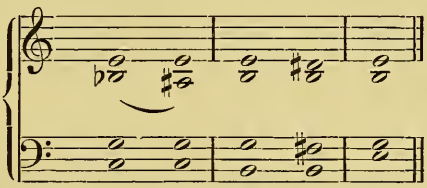
The old Greeks already distinguished three kinds of tones: The diatonic, chromatic, and enharmonic. The latter they certainly only understood in reference to the ambiguity of tones, whilst we extended the idea to the ambiguity of chords. The use of the enharmonic system can be of two kinds.

1. For easier reading we write a tone with a ♯ signature instead of with ♭♭ or

2. We suddenly conceive an existing tone within a harmony in a different light, that is, we see it enharmonically. Through this it loses its name and significance and becomes a guide to perfectly new resolutions. In regard to this we will make an experiment with the tones B flat and A sharp.



This B flat points to F major or F minor, and, in the extremest case, to two or three deceptive harmonies of the nearest related keys.



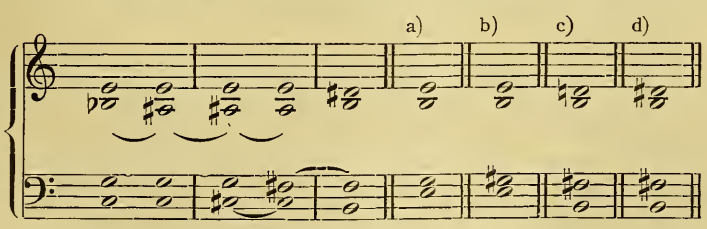
If we conceive B flat as A sharp we can modulate in the simplest manner (through the extended minor system) from F major to E minor.

This experiment can be made with every chord of the seventh (the seventh enharmonically altered) and each time a different key is reached.

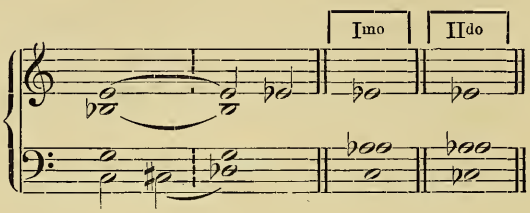
Thus from the chord of the seventh in E flat major $\begin{pmatrix} A\flat \\ F \\ D \\ B\flat \end{pmatrix}$ one would arrive in D minor, &c. ($A\flat$ conceived as $G\sharp$.)

If we would add to these enharmonic changes chromatic alterations in other parts we would arrive in other keys in the most simple manner.

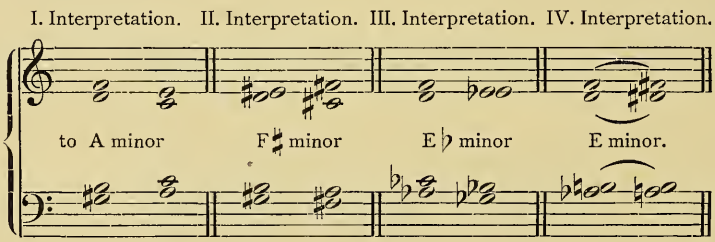
If the key in which we experiment be F major the result is this:



The way of modulation is here opened to E minor, E major, and B minor. At a, b, c, d, the concluding cadence of the key into which it is intended to modulate,—which really determines and confirms the key,—must be mentally added or played every time. Through the chromatic alteration in the second bar and the enharmonic change in the bass, we arrive in entirely new flat keys.



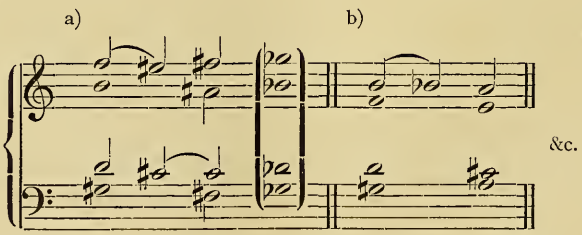
Here we instantaneously conceive $C\sharp$ as $D\flat$ and arrive in the quickest way, without constraint or whimsicality, in the remote keys, from F major, of A flat major and A flat minor. At II^{do} we conceive the E in the second bar as F flat. (See enharmonic chords.) Its capability of fourfold interpretation stamp it as being particularly adapted to the purposes of modulation.



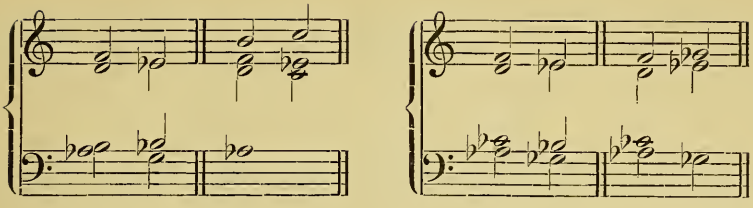
Through these enharmonic changes modulation can be made from A minor to F♯ minor—B minor to E major—D major to E♭ minor—&c.

G♯-b-d-f can be interpreted as A flat-*b-d-f*, or A flat-c flat-*d-f*, or as *G♯-b-d-e♯*.

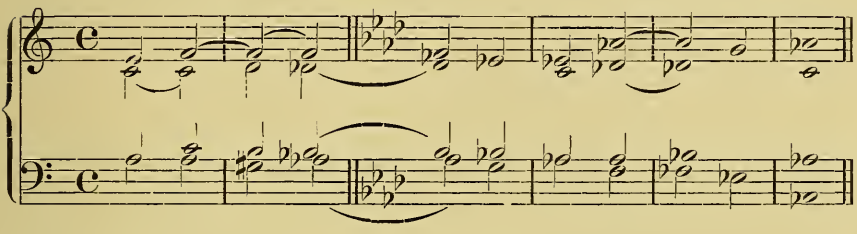
The manner of modulation is according to the interpretation.



At a to major or minor.



(See enharmonic change of the augmented triad.)
From A minor to A♭ major.

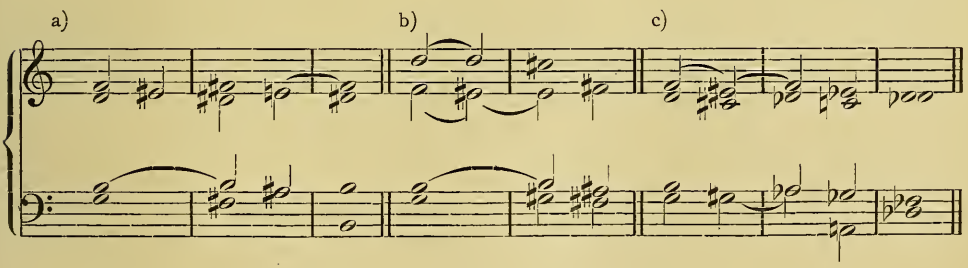


These modulations are to be written and played:

From D minor to D♭ major
From G minor to G♭ major
From C minor to B major
From F minor to E major
From B♭ minor to A major
From E minor to E♭ major
From B minor to B♭ major
From F♯ minor to F major
From C♯ minor to C major
From D♯ (E♭) minor to D major
From G♯ (A♭) minor to G major

Modulation in the Enharmonic System through the Chord of the Dominant Seventh.

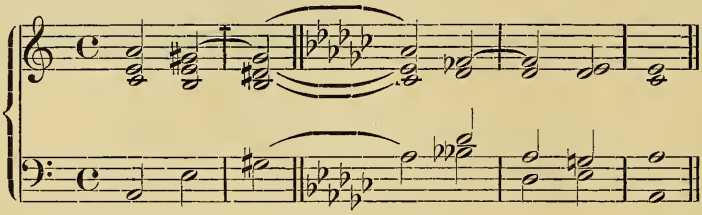
We have treated this subject already and add *G-b-d-f* enharmonically changed to *G-b-d-e♯*. The following modulations result:



At a we modulate to B major (or to B minor just as well), at b to F♯ major (or F♯ minor) and at c to C♯ major, which key is here enharmonically altered to D flat major.

Attention is here drawn to the free resolutions of all chords of the seventh.

The soft triad on the VII degree in minor (see this) and the chord of the seventh built upon it are particularly suitable to enharmonic modulation.



To be played in all minor keys.

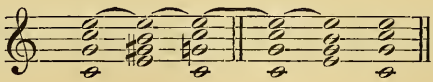
A further ambiguity of chords is yet possible. For instance the C major triad is in C major tonic, in F major dominant, in G major under-dominant, in A minor mediant, in E minor mediant, in F minor dominant. C is octave in C major and C minor, fifth in F major and F minor, third in A minor and A♭ major, and sixth in E minor. We perceive from this that a major triad can be tonic, dominant, under-dominant, and upper or under-mediant. With every one of these changes the same sound alters its meaning in regard to key, which is of great importance in the theory of modulation.

A minor triad can never be an upper dominant triad, because on account of its minor third it possesses no leading character.

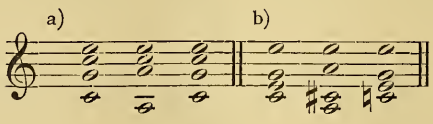
From C major we can pass directly to the above mentioned keys.

If we transpose these direct modulations into all other keys we naturally arrive in quite different key domains. For instance from the major triad on D or A flat, &c. The C major triad contains the third *E*.

If we conceive this third as octave we can at once proceed to E major or E minor.

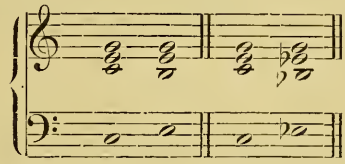


The *E* conceived as a fifth:



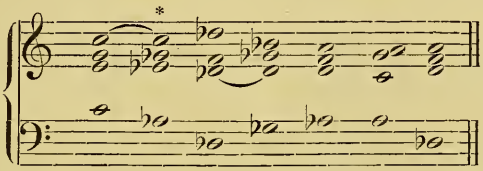
At b either D major or D minor would be open to us, instead of going back to C major.

The triad on C major contains the fifth, *G*. If we conceive this tone as a third we directly arrive at the following result:

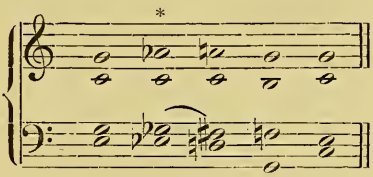


Such experiments must be made with all triads, so that the student already, through this most simple system of enharmonics, and without the added help of the chromatic system, has a great abundance of modulatory and harmonising purposes at his disposal.

A frequently occurring modulation in modern music is the following:



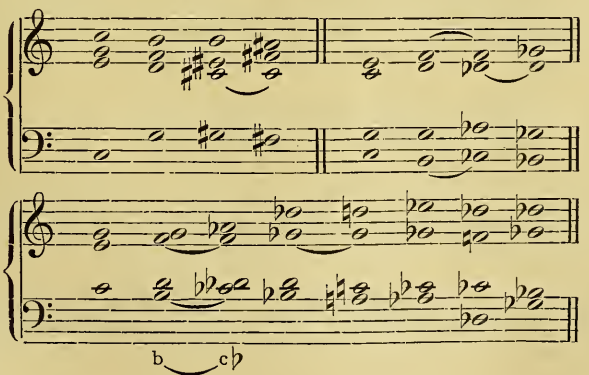
This modulation we often meet with as a transitional chromatic movement leading in most cases to the original key again.



At * modulation is effected through the second inversion of the chord. The quick conception of the G flat as F sharp leads us back again to the key of *C*, from which we started, by the apparently roundabout way of G major, through the chord of the seventh, *D-f♯-c-a*, which finds an outlet in *G* and its natural resolution in *C*.

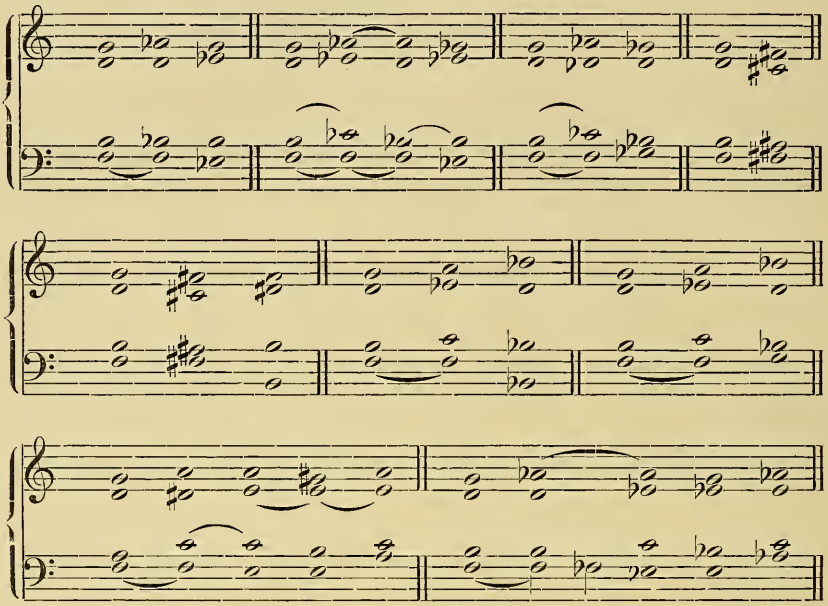
* * *

Indirect modulation must be accomplished through the two chords of the seventh, or through the gradual chromatic movement of one or more parts, either separately or together. A few examples will render this clear:



Such experiments must be made from all keys to all major and minor keys.

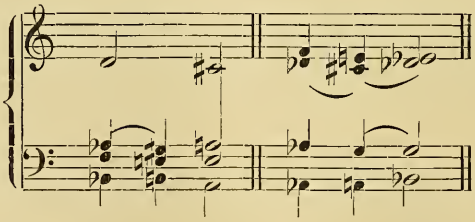
On the bass tone of the chord of the second in *C* (*f g b d*) we can place the following modulation:



These examples show what a rich means to effect modulations we possess in the enharmonic system.

The enharmonic means employed here consists each time in conceiving the *F* of C major as belonging to another key, whereby the harmonic meaning of the tone *F* and its position as interval to the chord, alters each time. By the former process we arrive in remote keys, by the latter at the correct resolution of the tone itself.

Sounds like these:



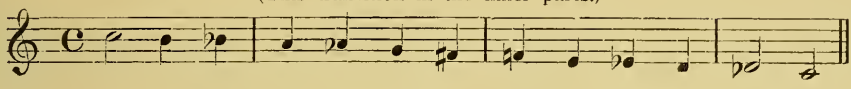
are of frequent occurrence and prove how closely all our keys are related to each other through the enharmonic tone-system.

In order to clearly comprehend this discipline we must place our three tone systems side by side, to illustrate the ambiguity of a tone (page 3).

5. *Modulation through the Chromatic Transition.*

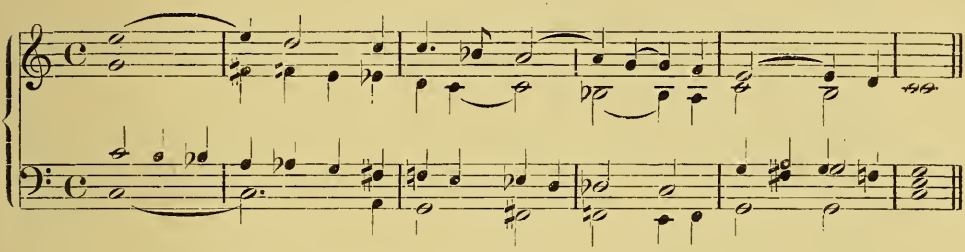
Transitions of this kind should be self-dictated in the form of a Cantus firmus, and will prove very useful exercises in the end. For instance:

(This transition in the inner parts.)



The harmonizing of such schemes is not easy at the beginning, but here, as in all things, "practice makes perfect".

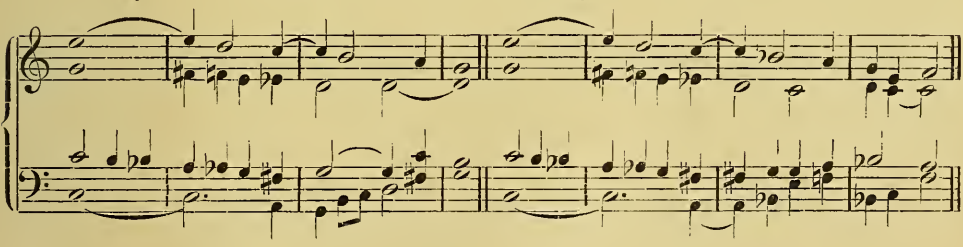
We will harmonize this transition but without regard to the purity of the four part writing:



Through these chromatic transitions passing modulations are formed of the most diverse kinds. These passing modulations moreover can be transformed,—according to taste,—into absolute, real modulations into other keys.

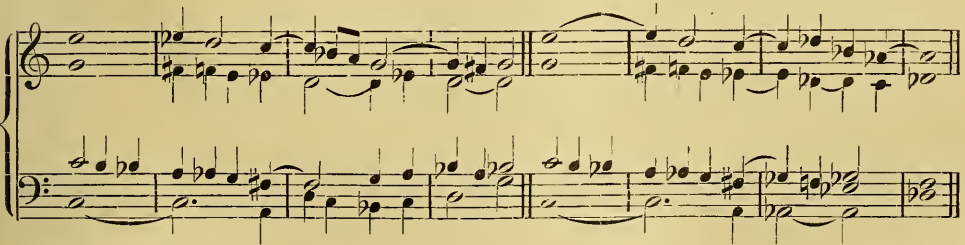
By means of the chromatic transition we could modulate in the following example, to

1. G major



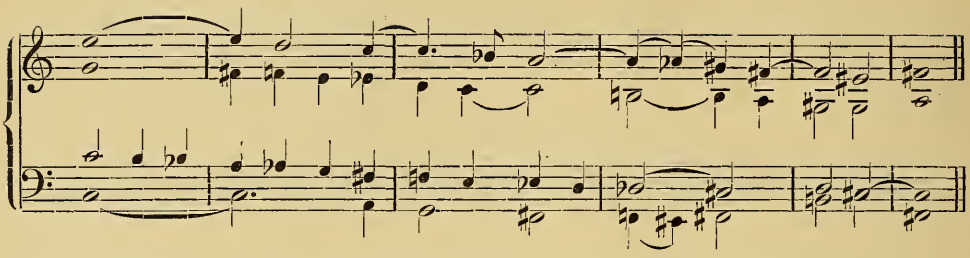
2. F major

3. G minor



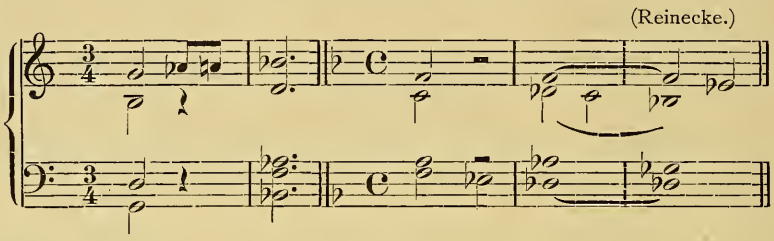
4. D flat major

5. G flat minor or F sharp minor

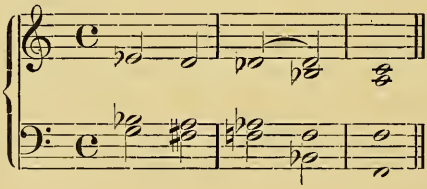


In this place belong the examples hereunder given:

(Reinecke.)



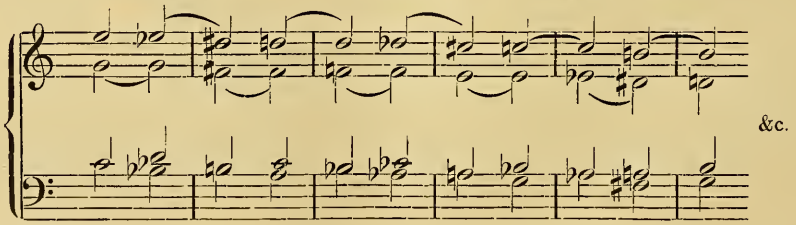
6. Modulation through Parallel Chords of the Sixth in Chromatic Succession.



7. Modulation through Displacement of the Harmony. (Climax, Steps, Ladder.)

A grand means of modulation is the so-called Sequence, Climax, or Harmonic Displacement, otherwise harmonic movement in upward or downward diatonic or chromatic progression. These harmonic displacements can appear in step by step, or skip, movement. For instance:

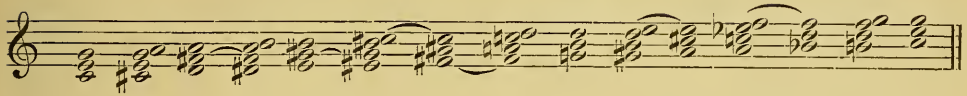
chromatically, downwards, step by step.



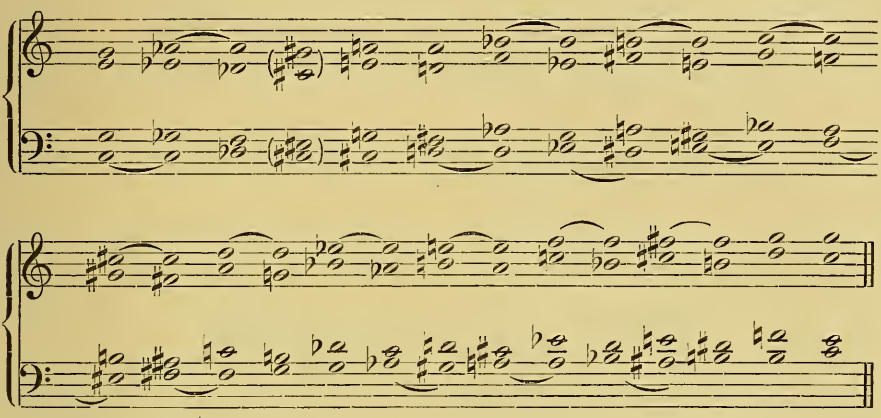
&c.

We modulate here from C major to A♭ major, B major, B♭ major, A major, G major.

The ascending chromatic movements lead us also on to new ground.

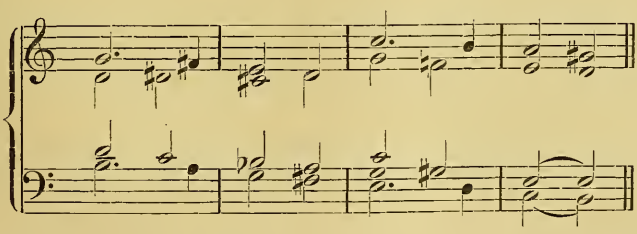


This is the most simple kind of these movements. If we completely perfect this example with both enharmonic changes and chromatic movements we reach all keys in the circle of fifths, and all keys of the chromatic and enharmonic systems.



Enharmonically change in this example: D♭ major to C♯ major, E♭ major to D♯ major, F♯ major to G♭ major, A♭ major to G♯ major, B major to C♭ major. By this means we shall comprehend our complete chromatic and harmonic systems.

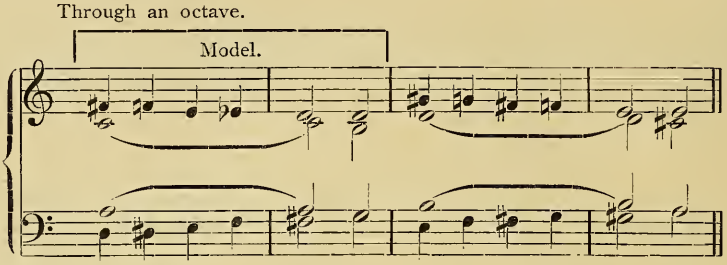
Particular heed is to be taken of the tones connected with ⁀ which play partly the role of ligatures, partly the role of enharmonic (similar-sounding) connections. Both kinds of connections are of importance, as those modulations sound best which possess tones in common with the chord from which the modulation is to be made. Beethoven frequently used these movements in his Sonatas and Symphonies. For instance:



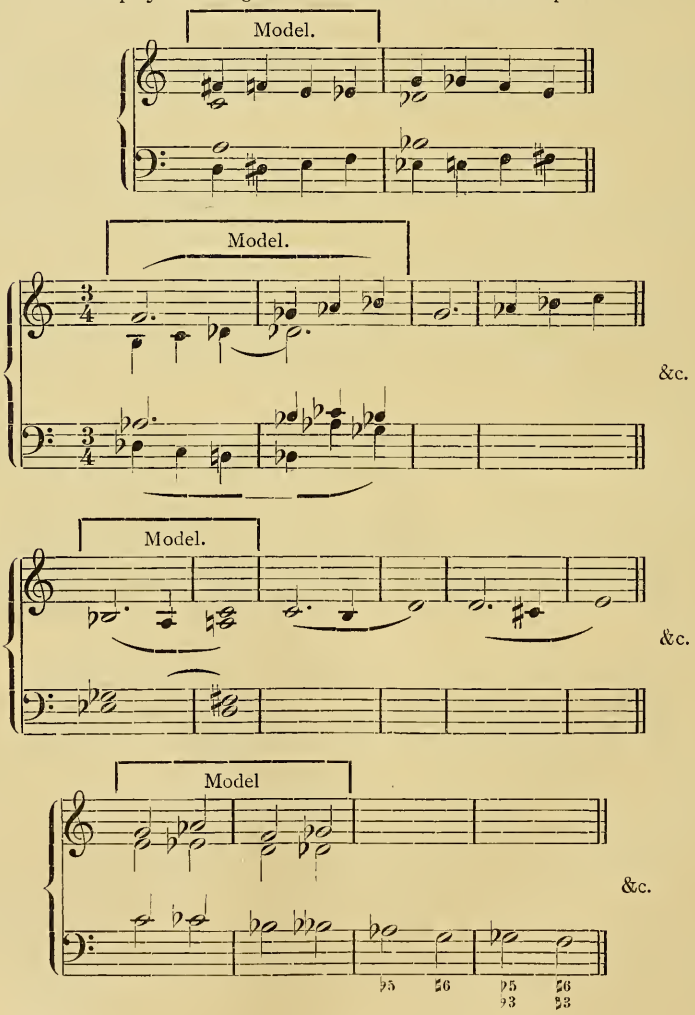
This sequence proceeds upwards by skip. It is interesting in so far as,—in spite of the skip movement in the first and second bars,—the bass progresses one scale downwards.

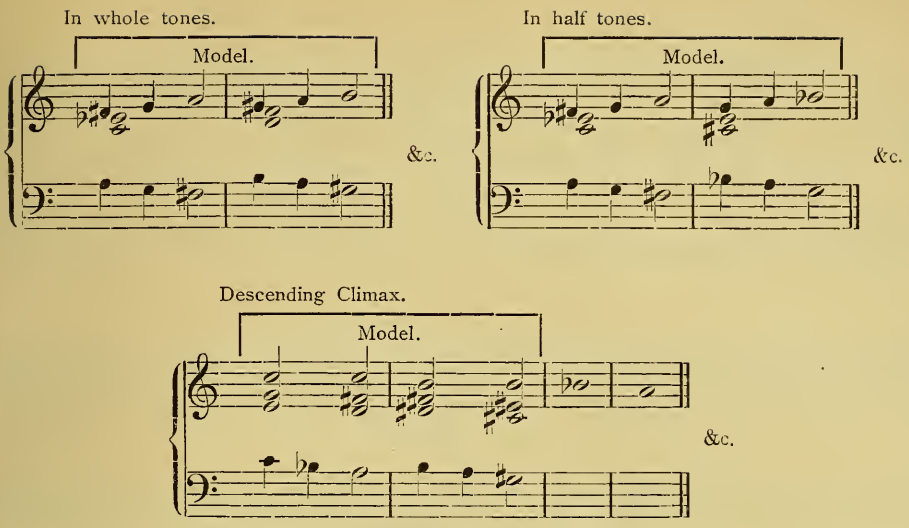
The climax or sequence finds frequent application in modern music. Similar examples should be constructed and diligently played. For instance, the following should be played through an octave, first in whole, —and then in half—tones, progressing upwards.

a) In whole tones.
Through an octave.



b) In half tones.
To be played through the whole chromatic scale upwards.



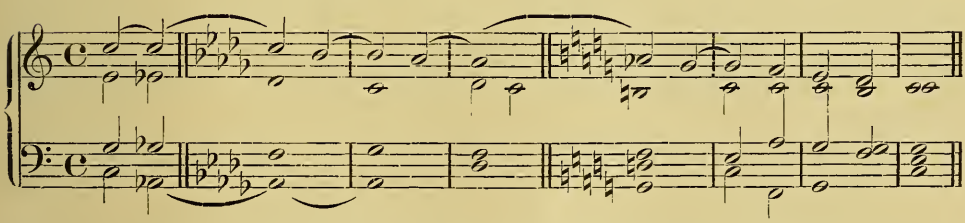


Go through again the whole chapter on "The Sequence".

Repetition of the Means for Modulation.

1. The chord of the dominant seventh (or its inversion) of the key into which it is intended to modulate.
2. Both chords of the seventh of the original and modulation keys.
3. The doubly diminished chord of the seventh.
4. Modulation through the Enharmonic System.
5. Modulation through the Chromatic Transition.
6. Modulation through Parallel Chords of the Sixth.
7. Modulation through Displacement of Harmony. (Sequence, Climax.)

We give a few examples of modulation:

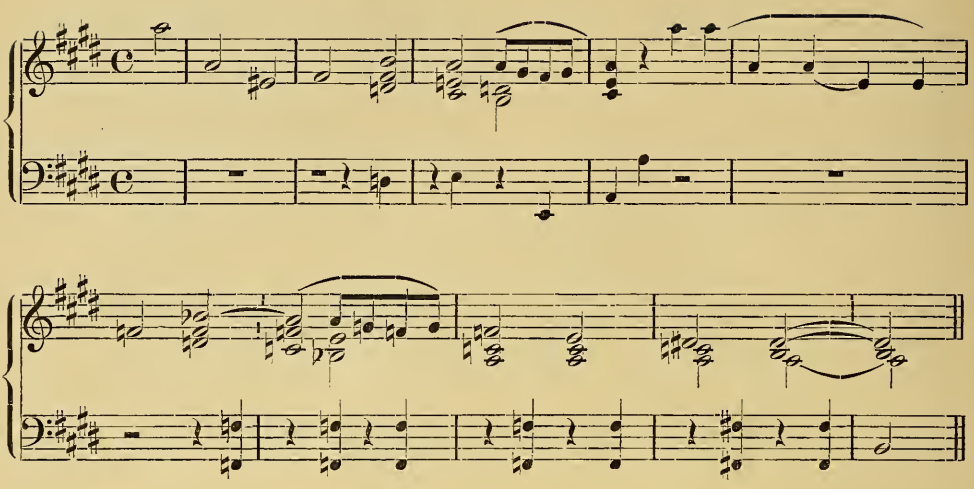


The pupil should here adopt the method previously suggested and play these modulations in all keys.

Comments should be made by the teacher on the examples now following, and the pupil should take them well into consideration.

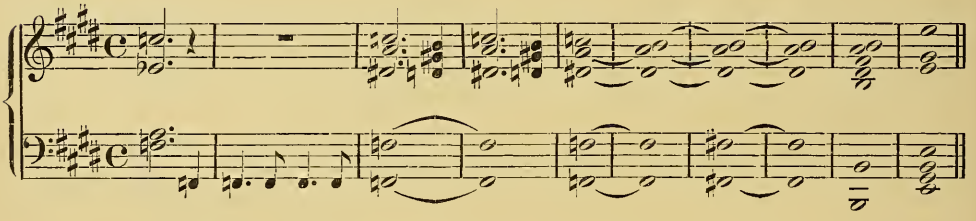
1. The Introduction to Beethoven's "Leonora" overture No. 2, should be explained to the pupil.

2. Beethoven's Sonata, Op. 14, No. 1.



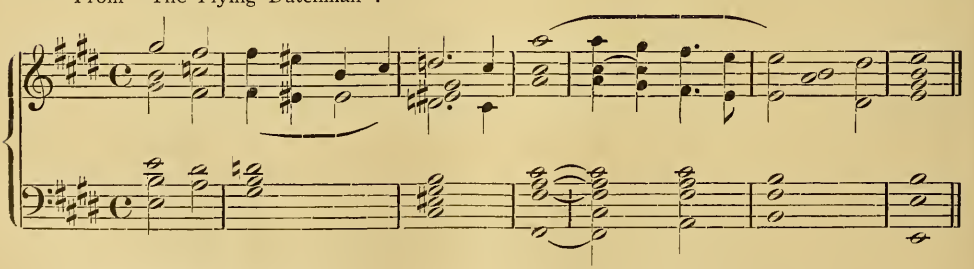
Here attention should be particularly drawn to the E♯ in the first bar and to the F in the sixth bar.

3. Weber in his "Jubilee" overture modulates from B♭ major to E major as follows:



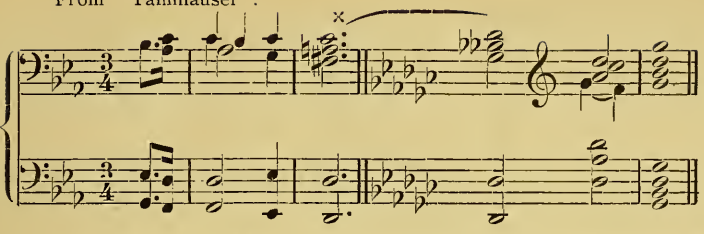
E♭ and *D*♯ are here enharmonically changed. The modulation is completed by introducing *F*♯ in the bass. The chord of the seventh following is only an additional strengthening of the preceding harmony. The following modulations are one and all taken from works of Richard Wagner:

From "The Flying Dutchman".



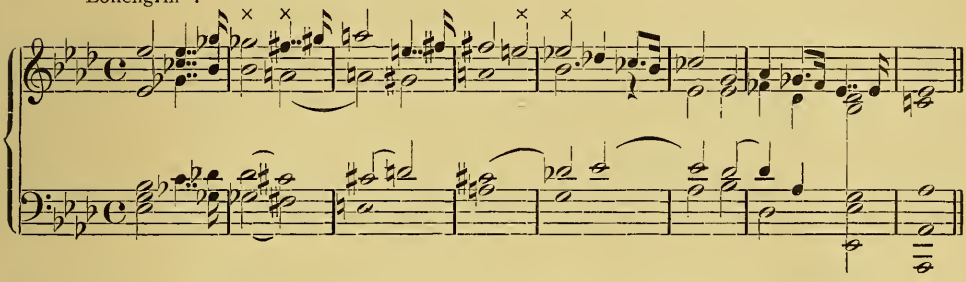
A passing modulation.

From "Tannhäuser".



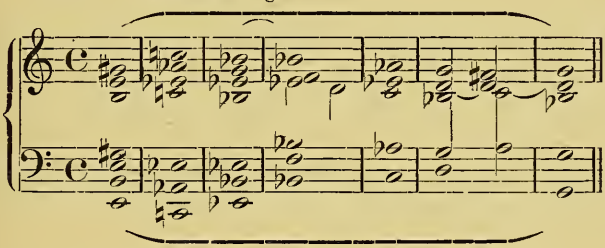
At * the modulation takes place through the enharmonic system.

"Lohengrin".

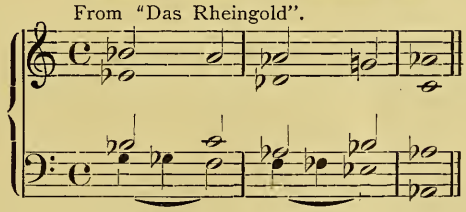


Here particular attention should be paid to the Enharmonics of the second and fifth bars.

From "Die Meistersinger".

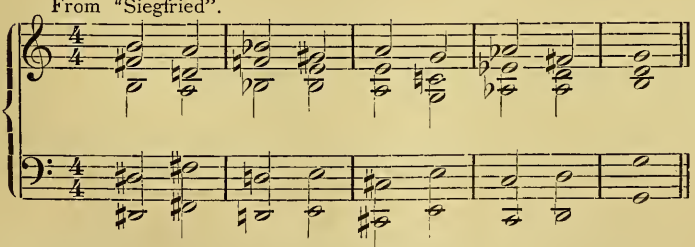


From "Das Rheingold".



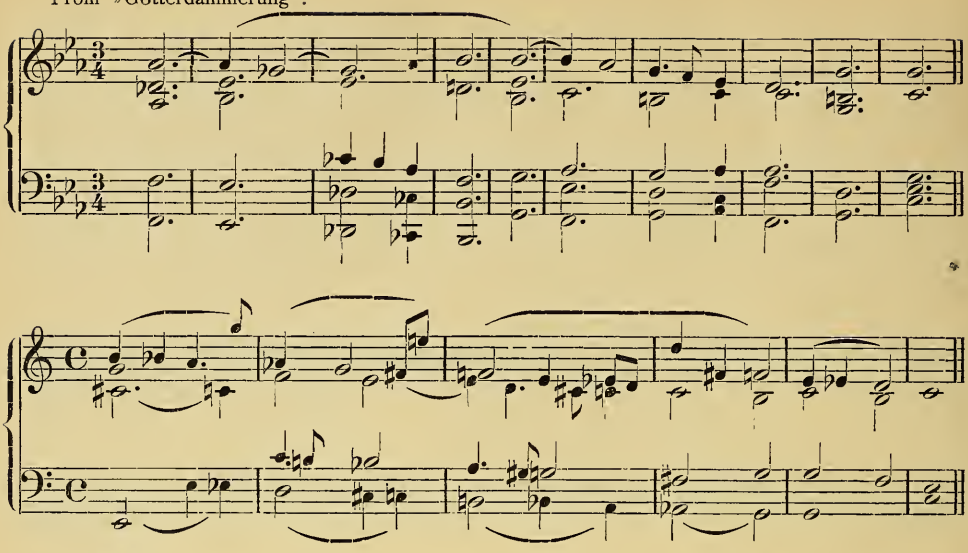
Here modulation by displacement of harmony.

From "Siegfried".



Modulation through chromatic sequence.

From »Götterdämmerung".



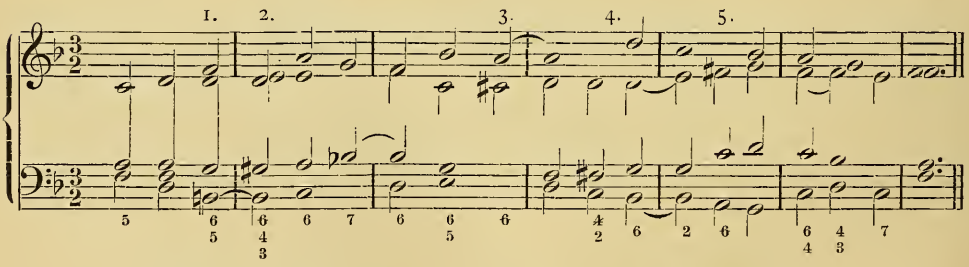
Modulation through the chromatic transitions in the lower inner parts.

Method of Instruction pertaining to the Chapter on Modulation.

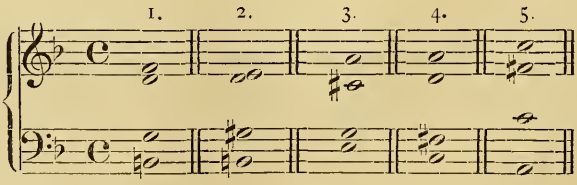
I have previously recommended Richter's exercise book, and expressly repeat here this recommendation. Referring to the foregoing chapter on Modulation the following system should be adopted:

The pupil should set out the figured basses and pay particular attention to the purity of the part writing and the harmonious effect. I select an example from this book, and recommend faithful adherence to the procedure indicated.

Setting out of the figured bass:



The chords foreign to the key are to be first traced.
We are in F major. Foreign to the key are:



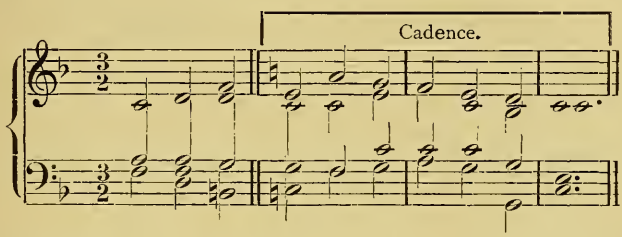
The whole example contains only passing modulations, as we return to the original key at the finish.

But these examples must be made useful in giving these modulations a permanent character. Here it should be remembered—

1. That as soon as the modulating chord is struck, the signature of the key into which it has led us is to be immediately thought of, and
2. The key into which the chord led is to be confirmed with a full cadence.

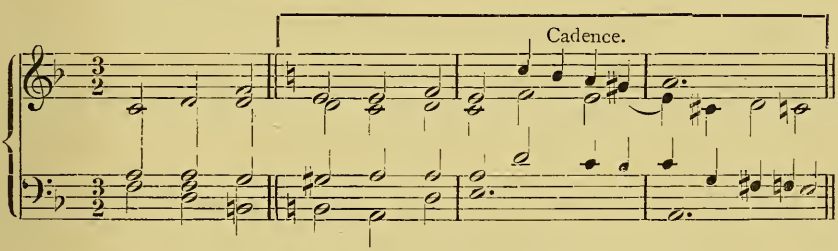
The above illustration contains five modulations.

1. From F major to C major.

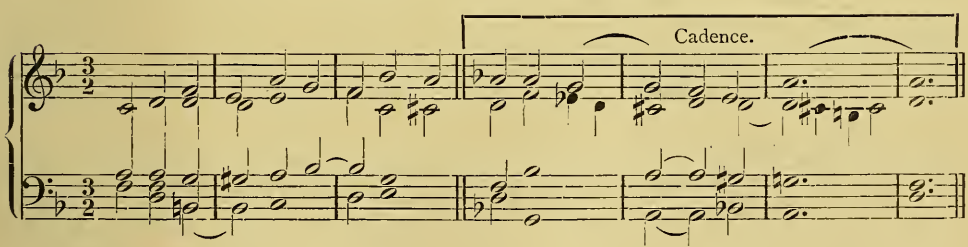


It is self-evident that all kinds of cadences find their application here.

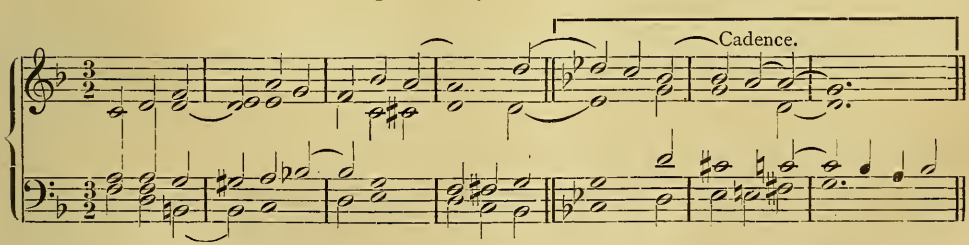
2. From F major through C major to A minor.



3. From F major through C major and A minor to D minor.



4. From F major through C major, A minor and D minor to G minor.



5. The fifth modulation also goes to G minor. In this wise all examples of Richter's exercise book are to be treated, and the success will equally enjoyable for teacher and pupil.

With each example the plan already indicated should be followed in all keys, and the modulations from all keys played with the concluding cadence.

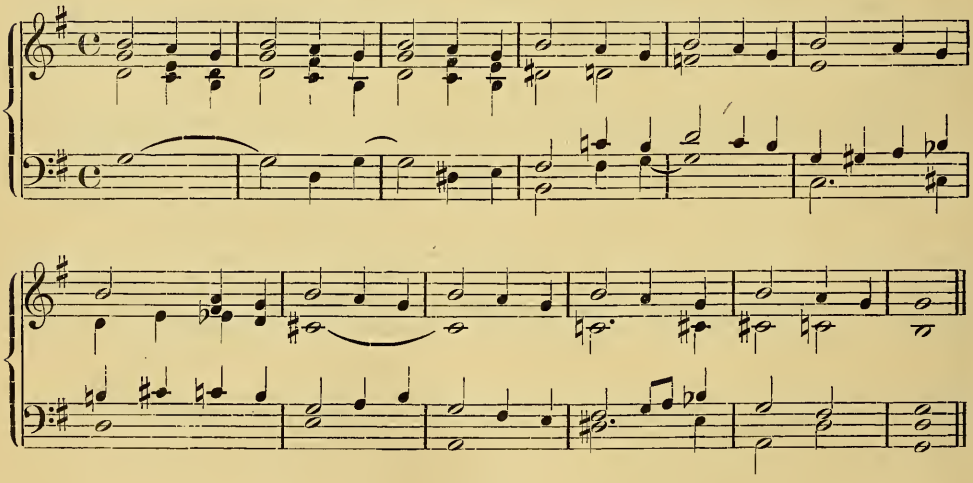
Chapter XX.

Accompaniment of a Melody.

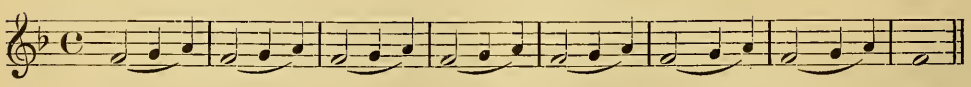
The pupil must now have so far progressed as to be able to write down, without making mistakes, any melody sung or played to him. This has to be practised every day. When the melody has been put on paper, an accompaniment consisting of quite even rhythmical harmonies should be added.

After this the embellishment of these harmonies with suspensions and diatonic and chromatic transitions should be attempted.

Here it is especially to be kept in mind that one and the same melodic idea must be harmonized consistently in various ways.



Exercise.



The foregoing example is naturally not to be considered a model of melody, it only indicates the method of procedure.

Here we refer to the passage in „Tannhäuser": „Im Traum war mir's" etc. (Piano score, page 30, 18th and following bars.)

The method is as follows:

1. Writing down a sung or played melody,
2. Harmonising it in the diatonic system in even rhythm,
3. Embellishing it with diatonic suspensions,
4. Embellishing it with diatonic and chromatic transitions.

If this be practised with only ten examples successful results will soon be noticed.

The constant accompaniment of our original melodies (the scales) as Cantus firmus in all parts is the surest way to the desired end. With given melodies, chorales &c., the principal thing is that the pupil first traces the points of modulation.

Chapter XXI.

a) Four-part Vocal Music (for mixed voices).

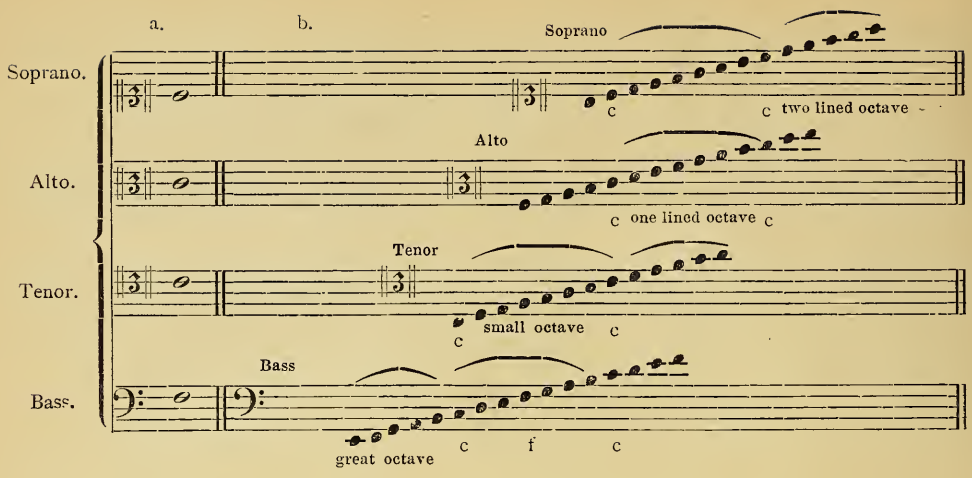
The voice is understood to be the human organ of speech and song in sound-producing action.

If this sound be produced by one person the song is one-voiced (einstimmig), if a second voice enter in the character of accompaniment two-voiced (zweistimmig), a third under similar conditions three-voiced (dreistimmig), and a fourth four-voiced (vierstimmig). As the pitch of voice is different in human beings there arises different tone-heights, tone-depths, and tone-compasses.

The voice of the highest pitch is called Discant or Soprano, the voice of the next lower pitch Alto, the voice under the Alto, Tenor, and the deepest voice Bass. The interval ratio of these four voices is such that Soprano and Alto, Tenor and Bass stand in the position of fifths to each other, and Soprano and Tenor, Alto and Bass in octaves. A melody sung by the Soprano in G major would be sung by the Alto in C major, by the Tenor in G major and by the Bass in C major. Soprano and Bass are called the extreme voices, Tenor the lower middle voice, and Alto the higher middle voice. The exercises following here must be written on four different staves and bear the clef-signatures corresponding with the different voices. These four clefs are the Soprano, Alto, Tenor and Bass clefs.

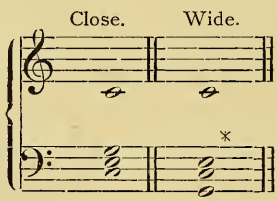
In modern times the treble clef is used for the first three voices, but in giving instruction the practice is to be absolutely rejected.

The clef of the three upper voices is called the *C* clef because the note written on the stave line on which it is placed is called *C*. For the same reason the Bass-clef is called the *F* clef.



The notes added at a. stand on the stave line of the corresponding clefs, and are called in the Soprano, Alto and Tenor *C*, in the Bass *F*. At b the compass of each voice is indicated. It is an individual talent of the singer to extend the compass of the voice by several upper or lower tones.

In part-writing for mixed voices the wide position (open position) predominates. But harmonies in close position also occur in proportion to the distribution of parts and the demands of musical beauty. There exist, however, chords which could not be used at all in the wide position, for instance:



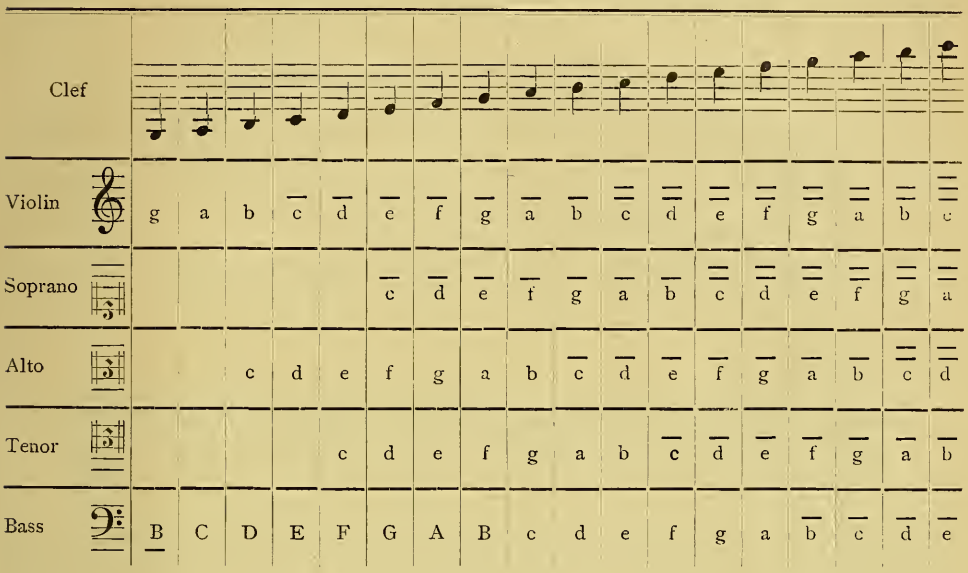
Here a chord of the $\frac{6}{4}$ and consequently another chord would arise, and the bass would change altogether which in this case must by no means happen. (See close and wide harmony.)

The method of instruction in this matter should be as follows:

1. The pupil should write cadences in all keys, at first simple, then with diatonic and chromatic suspensions and transitions.
2. After this he should harmonise all keys, with the scale tones always in the soprano part.
3. Then choral-melodies should be harmonised and figured basses written out.
4. The pupil should make practical use of all he has learned up to now in preparing small compositions without words.

Practice in reading the four different clefs is absolutely necessary for the professional musician. For this he should choose the third degree of Fr. Wüllners Choral Exercises.

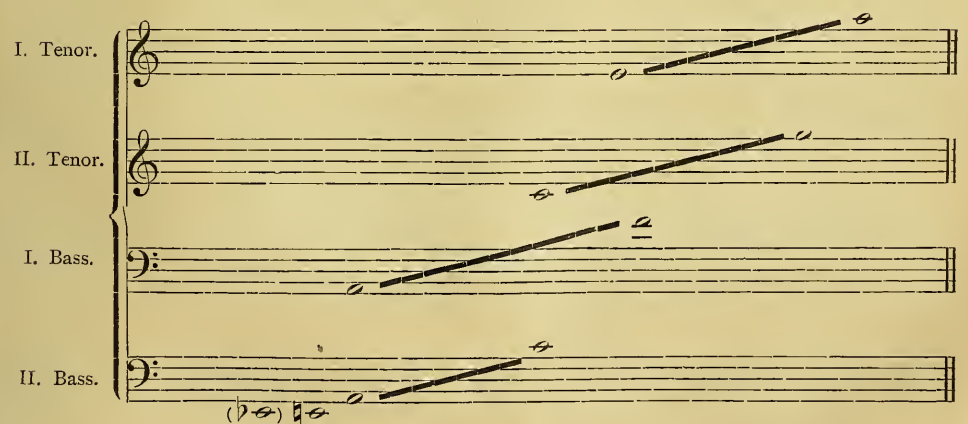
1. It is a preliminary to the reading of scores and
2. through it alone the art of transposition becomes possible.



The pupil should now be encouraged to improvise on the piano or organ in the presence of the teacher.

b) Choral Compositions for Male Voices.

Compass: I. and II. Tenor.
I. and II. Bass.



In choral compositions for male voices the close position predominates. The two tenor voices must be transposed in imagination an octave lower than they are written.

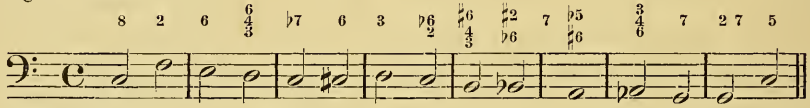
The best is to study good models.

Modern authors worthy of recommendation for this are: Bruch, Rheinberger, Hegar, Thuille, Meyer-Olbersleben, Wüllner, Draesecke, Brahms &c. One learns only good of good models.

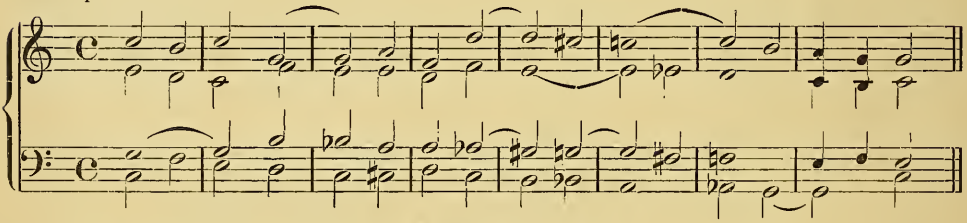
Preliminary Exercises for Simple Counterpoint.

1. Accompaniment of the scales in all parts as previously recommended.
2. Accompaniment of melodies in all parts as Cantus firmus, as they are contained in Richter's Exercise Book.
3. Experimentalize with quite simple figured examples like the following:

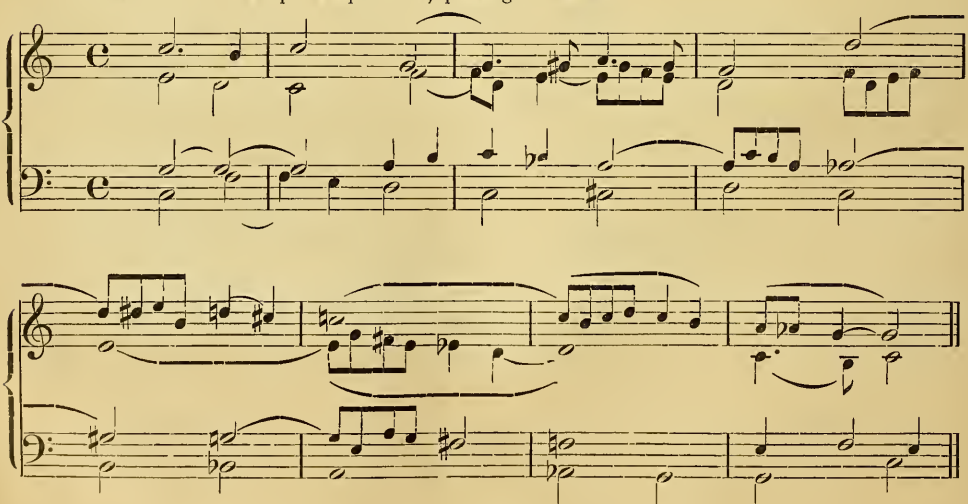
a) Figured Bass.



Simple execution.



Embellishment with simple suspensions, passing notes &c.



It must be noted that in these exercises the bass can only be altered when the original foundation of the harmony is not interfered with.

Appendix to the Chord of the Ninth.

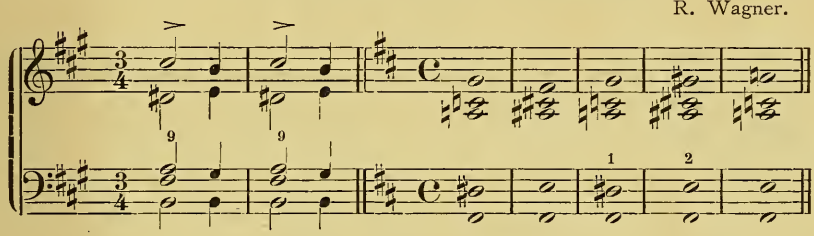
This chord (Fünfklang, five-tones) is completely banished from the system of harmony by several modern theorists and only, as a suspension chord does it find grace.

Formerly I myself belonged to these theorists. But after long experience I have a much more friendly feeling for the exile.

It is Richard Wagner especially who has taught me that the existence of the chord of the ninth is fully justified in our modern system of harmony.

How can the following passages be explained without giving the chord of the ninth its proper due?

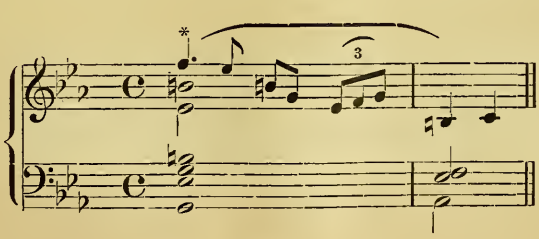
R. Wagner.



From this second example of Wagner it is obvious that the ninth of the chord of the ninth *must not resolve* in the octave of the bass by any means, but that a chord of the ninth can even progress into a second chord of the ninth.

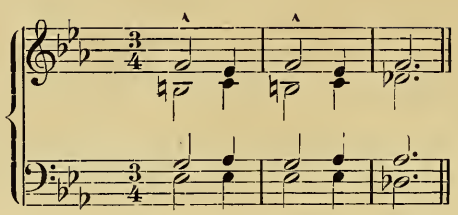
Here we evidently have not to deal with a suspension of the octave but with harmonies of an independent character that have not the slightest resemblance to a harmless suspension.

L. Thuille constructs in his "Lobetanz" a chord which must not pass unmentioned.

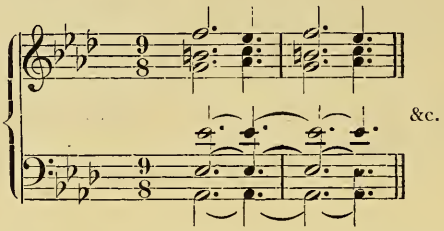


I can only conceive this first chord as a chord of the ninth, which is constructed on the chord of the sixth of the augmented triad.

In its fundamental form it appears thus:

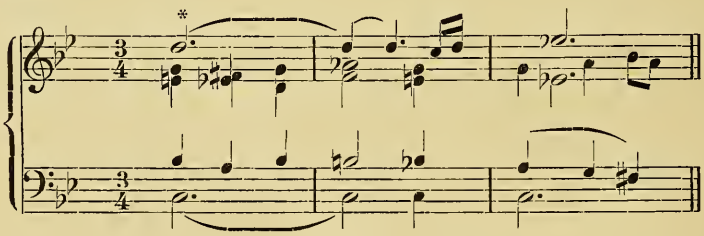


and it is brought to our memory whenever we think of the "Rheintöchter-Terzett", only Wagner added the organ-point tone A flat to the chord.



I must pronounce as interesting and original Thuille's treatment of the chord, especially its resolutions. (Compare the two resolutions.)

In my own justification I must quote another example from "Die Meistersinger".



The first chord is certainly to be conceived as a chord of the ninth and not as a suspension of the octave to the fundamental tone, inasmuch as it progresses *into another dissonant chord* on the organ-point tone *C*.

Where is the suspension of the octave here?

This brief consideration of the banished chord of the ninth may suffice to again establish its position. I shall always acknowledge it as an independent harmony, and treat it as such in teaching.

———— * ————